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THE PENNSYLVANIA BEEKEEPER
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34th Annual Report
OF THE
Pennsylvania State Beekeepers Association

The meeting was called to order by the President, H. M. Snavely, Wednesday, January 20th, at 9:45 A. M. The meeting place was Room D of the Farm Show Building, Harrisburg, Pennsylvania.

Convocation by Rev. H. M. Snavely.

Address of Welcome by Hon. J. Hansell French, Secretary of Agriculture, Pennsylvania.

Mr. Chairman:

Beekeepers of Pennsylvania:

Thank you for the privilege of welcoming your Association to the Farm Show again this year. It is one of the pleasures the Farm Show has been bringing me.

It gives me a great deal of personal satisfaction to be able to report to you at this time that the Department of Agriculture last year completed it's biggest apiary inspection job in several years and that the department is asking from the current legislature a larger appropriation that it may continue for at least two more years its apiary inspection program on a similar scale.

The Department of Agriculture is ambitious for Pennsylvania's bee industry and jealous of its well being. Its personnel takes keen pleasure in working with and for a group of cooperative and progressive beekeepers.

In closing I urge you to bring your legisative problems to me during the present session of the legislature. The department favors any new legislation which benefits the industry.

The Bureau of Plant Industry favors the proposal to legalize honey as a beverage sweetener and the Bureau of Foods and Chemistry will not oppose it.

I hope each of you enjoy every minute of your visit to the Show and that you return to the home hive benefitted in many ways.

SECRETARY-TREASURER'S REPORT—A. T. Keil, Mars, Pennsylvania

A motion was made to accept the report.

A few remarks from the secretary-treasurer: "He wanted to know who the presidents were in the past so that a history could be made up of all the past meetings. He asked for suggestions. He also had quite a lot of correspondence from New Jersey, Delaware and New York. There are four districts. Of course we hold picnics every year. I think we should have a picnic in the central part. Mr. Ransel, Philadelphia, brought up the question of having four vice-presidents instead of one. I think we should have four vice-presidents.

Last year I was very busy. I put into secretarial activities about sixty hours during the month and I am busy with my usual tasks. I have started to develop a new form of hay-fever relief. I would, therefore, like to have the members think of somebody to elect as secretary-treasurer as I really do not have time."

Mr. J. B. Hollopeter, Rockton, Pennsylvania, was on the program for an address but he was unable to be there so he sent his address to be read by one of the other members.

QUEEN BREEDING IN PENNSYLVANIA

"As I think of queen breeding in Pennsylvania I am reminded of the queen breeders of this, the Keystone State. Queen breeders of the past, of today, and of the future. The measure of success along the line of this branch of bee culture, is largely determined by the measure of the man engaged in the work. His enthusiasm, his training and experience. His ability and capacity for overcoming difficulties, for while it has been said that "bees work for their board and board themselves," it will be found that few lazy men (drones) make a success of keeping bees, it takes "workers." This is particularly true of queen breeding which calls for such minuteness of details and constant attention from one end of the business to the other. Of course, I have in mind "breeding" of queens not merely "rearing" them, for there is a vast difference between scientific queen breeding and just merely producing more queens. What commercial queen breeder has not wished for some easy way to produce queens by the "peck," something like you would shell out beans, but alas, there is no such easy road to success. The old time alibi, "if weather permits," still haunts the commercial queen breeder, for no other part of beekeeping depends so much on weather conditions. Several days of cool, cloudy or wet weather, works havoc with the mating of queens and consequent filling of orders. While this has been overcome to a great extent, yet in any state where queens are reared, seasons will vary, sometimes early, sometimes late, and often unusual weather conditions prevail, perhaps too wet, too dry, too cold, too hot. While climatic conditions vary in Pennsylvania, we can count on sufficient moisture and sunshine to mature the crops and our greatest enemy is late spring frosts. So while we have some unfavorable contitions, we have many more favorable ones, and Pennsylvania ranks high as an Agricultural State. Beekeeping is successfully carried on, and when the roll call is made of beekeepers this state has made a worthy contribution.

It has been claimed by some that beekeepers as a class rank higher than the average. If this is true of beekeepers, then among beekeepers, he who can, like Dr. Miller, breed better bees, must stand very near the top of the class.

I am not now speaking of commercial queen breeders alone, but also of those, who keep only a few colonies for the thrill and pleasure found in working with bees. It is these beekeepers who are striving to increase their store of knowledge of bee culture and with unbounded enthusiasm proceed to experiment and investigate. Herein lies a great value in meetings such as this, the exchange of thought, for no class of people are as adept at this as beekeepers. There is a reason for this. Bees are living organisms, they do not always act the same way, but are always interesting and so the beekeeper must do some original thinking, he must act on his own initiative often. He sometimes invents some gadget or device to save labor or to make life more comfortable for his "pets." The beekeeper just naturally has to tell his understanding friends all about it, and so the beekeeper becomes without any effort on his part, a very sociable person.

I have just spoken of two classes of beekeepers who are breeding queens, the commercial and the non-commercial, or the one who rears queens to sell and the one who rears queens largely for their use. This latter class far outnumbers the former, for most beekeepers have at some time or other "tried their hand" at rearing queens. Perhaps he had an unusually good queen from which he wished to get stock to head his other colonies, or not always being able to get queens when wanted, he decided to rear his own. Sometimes a large honey producer as Mr. Beaver runs a small queen rearing outfit. Or a beekeeper decides that since queens cost money, it won't cost him anything much but his time to rear his own. The ideal man to rear queens is one with plenty of information on and knowledge of the subject and money enough to be able to complete the job, insofar as he is able to go. Our experiment stations help us along this line. Government experts, bee specialists, bee journals all are of great help and for the most part the costs are small for all this help so that it is within the reach of all. Last, but not least, those beekeepers who make queen rearing a "hobby" supply an amazing amount of information and may their "tribe" increase.

Among the outstanding queen breeders of a former generation was Mr. E. L. Pratt, whose home was at Swarthmore, Pennsylvania. He was the writer of a number of papers on Apiculture, one of which was "Simplified Queen Rearing for the Honey Producer," "Increase," and "Baby Nuclei." This is quite a complete treatise. Some of the illustrations were made by hand in the Swarthmore Shops, Swarthmore, Pennsylvania.

Under introductory remarks Pratt gives this gem of wisdom, "Change all failing or slow queens promptly and breed from the best you can secure—thus raising the standard of your stock step by step and improving the average year by year." Pratt was highly successful in handling baby nuclei. He could explain in an easily understood way how to prepare colonies for grafting, how to graft and finish cells. His methods have stood the test of years and with Doolittle, his works helped form the foundation of modern queen rearing.

I can not give a complete list of the queen breeders of Pennsylvania much as I would like to, but if you look over the bee journals for the past thirty-odd years you will be surprised at the number of queen breeders this state has produced. Some others have been in the business without advertising, their output being disposed of locally. With the tens of thousands of queens reared and sold by these breeders, much has been contributed by them to the success of beekeeping in this and other lands, for many of these queens have gone to Canada and foreign lands.

Another of Pennsylvania's well known beekeeping sons who has made important contributions to the craft of queen breeding and apicultural matters in general is our friend, Prof. Geo. H. Rea. His years of experience in this and other states makes of him a much desired speaker at any gathering of beekeepers. I do not know if he has written any books on the subject but I know that he has passed on to many of us much valuable information in our line.

Among the present commercial queen breeders is Mr. W. G. Lauver, who with many years of successful queen breeding is well in the fore front today. Some others are Birdie M. Hartle, Ronald Kirk and J. B. Hollopeter. This is not a complete record and I suggest that someone compile data for a more complete record to be put in book form of beekeepers' past and present. I believe it would make profitable reading. Who will undertake such a task?

From among our 4-H club members, and those trained by experts from our State and Government, will come our queenbreeders of the future. As a post-graduate course I suggest a time to be spent with the great masters of the art, so that with theory and practice working together harmoniusly, the Keystone State will continue making substantial contribution to the beekeeping industry of the world until time shall be no more."

THE USE OF BEESWAX IN MAKING CANDLES

by

D. C. Babcock, Adv. Mgr., The A. I. Root Co., Medina, Ohio

I have been coming to Pennsylvania meetings for 18 years. You may recall that I spoke on this subject two years ago. I wish to speak on the history of beeswax in candle making and why we, as manufacturers, have gone into this phase of the work.

Did you know America or United States produces probably the finest kind of beeswax? This wax has always been a fine source of revenue for beekeepers. Several years ago we received word from friends of ours that the experimental laboratories of some telephone companies were working on substitutes for use in insulating. If successful, this work threatened to close one of the large outlets for beeswax, so we turned our attention to beeswax candles. Candles have been used almost since the time of the sun dial. The first clocks were made out of a candle. One day Mr. Huber Root's son came to him and asked him for a candle to carry out an experiment, but a candle could not be found. "Well," said Huber, "We will go into the shop and make one." So he rolled up a piece of beeswax on a cord and handed it to David, his son, for a candle. I think we have some of these candles still around the place. They do not look like the candles we are making today. From this start the manufacture of a new type of candles became a major enterprise. The big outlet is the Catholic church. In addition decorated candles are made to meet the demands of the women who want candles with some color.

Bishop Shrems, of Cleveland, was contacted to get the real facts in regard to candles. When Mr. Root told Bishop Shrems that his candles were made of pure beeswax he looked at Mr. Root in surprise and said, "Pure beeswax?" Mr. Root was at a loss to know why he questioned the statement that they were made of pure beeswax. Bishop Shrems said also that they had been questioning the burning quality of candles ing they way they should. Some had told him there was not enough for sometime. Candles marked 100 p. c. pure beeswax were not burning the way they should. Some had told him there is not enough beeswax in the country to make pure beeswax candles. When we offered pure beeswax candles you can imagine why Bishop Shrem questioned us. Candle making offered a new adventure. We are using the light color capping wax largely. We do not use the acid method as some do, we filter the wax, therefore, we preserve its rich aroma. Soon after we went into production there was a reaction. Other manufacturers had to follow suit and offer pure beeswax candles for sale. It meant also that we had to get our burning hours longer because candles are sold on burning hours or time.

Our candles vary in size from 6 1-2 inches long up to 44 inches. The largest is two and one-half inches in diameter.

Since starting in the candle business we have opened up offices or representative places in Milwaukee and Cincinnati. Our Philadelphia man covers the east including New Jersey. Our Iowa man covers the middle west, Texas, Louisana and Mississippi. We feel that in making these pure beeswax candles we have raised the standard of beeswax candles produced by other manufacturers and have done our part in keeping the beeswax market up to where it is today.

I want to speak on one other candle. The Catholic church used a seven day light as a sanctuary light. Before we went into the candle making business, this candle was a large candle about 2 1-2 inches in dimeter and 8 inches high. One was 51 p. c. beeswax plus some vegetable compound. These candles are burned in ruby cylinders. Sometimes they boiled over and smoked the ruby cylinders, causing a lot of trouble. So Mr. Root's mind commenced working on a way to remedy this fault the candles had—of going out and tipping over against the ruby cylinder. We placed lighted candles in milk bottles and everything we could think of. Many said: "You can not burn a light in a bottle," but we did it. If you could have visited Medina at that time you would have found that on every table was one of this kind of lights. We can make those candles today in bottles and those candles are burning in Medina. All we have to do is to put a little metal color between the light and ruby cylinder and it makes a thermal light.

We are now making our table candles on a honey comb pattern and find a big demand for them. There was a lady who came to my office one day to thank me for a couple candles she had got. There were eight other ladies who had been given some also. I was looking for a correspondence card to come in from some of them and thank me for the candles, until one of these ladies dropped in my office to thank me for the two candles she had received. She said, in the course of conversation, "I never sold anything in my life, but I believe I can sell these candles." I finally gave this woman permission to sell candles in Cleveland among her friends. She sold 110 dozen in ten weeks time.

HONEY CANDIES AND HONEY LEMONADE

by

D. C. Gilham, Hon-E-Nut Candies, Schuylkill Haven, Pa.

I have experimented with peanut butter and honey as a sandwich spread and found it very delicious. Some one in California got hold of my name and wanted to know what to do to keep it soft. It is well to keep it fresh and sell it within ten days or two weeks. You can not pack it, since it becomes too stiff to spread within several weeks.

I know a lot of folks who make Easter eggs by sticking them in the chocolate coating. The small pieces are done with the hands. This is the only way to make a nice piece. I thought for a long time that green honey would not make up a marshmallow. I took some honey and some gelatin, dissolved them and whipped up this honey and made a marshmallow. I believe there is quite a few whipping machines in the homes. If the housewife knew about it they could make their own marshmallow. One ounce of gelatin dissolved in 4 ounces of water and heated to about

45 degrees, then add 1 quart of honey and you can make a nice marshmallow. I also obtained information from a student in Pittsburgh. He used about the same formula. Add egg albumin and you will have a nicer marshmallow.

A customer from New Jersey was a vegetarian and he wanted marshmallow but he did not want animal gelatin used in it. He wanted me to use an agar gotten out of the Pacific Ocean. When you use the agar you will have to whip your egg albumin and pour your egg and gelatin into the honey. The animal gelatin seems to be the superior of the two.

I know a party out in California who says you can not do it that way, but he used a different gelatin. There are different grades of gelatin on the market. It is best to buy it in bulk and secure the same gelatin right along so you get the same results.

For sometime I made a honey lemonade and I enjoy drinking it. I sold this honey lemonade. I put it in a glass bowl to sell until one day a party came along and said to me, "How do you get along with that thing? You can not dip anything out of a bowl and sell it. You will have to have a spigot or a pump, and besides it must be cooled from the outside." I decided to write to Harrisburg and find out about it. I found that the law requires drinks to be sweetened with cane sugar. If you wish to comply with the law you can not use your honey—for this reason I have discontinued selling honey lemonade.

This past season a man came in for honey lemonade. He said that he used to be a heavy drinker but he never drank honey lemonade. This drink is healthy and there is nothing wrong with it. There is a market for honey lemonade and it benefits everybody who drinks it.

All the candies I make are a mixture of honey, nuts, etc. Honey and peanut butter mixes up very nicely. We purchase all of our chocolate from Hershey, but the chocolate has raised much in price from 30 to 60 per cent.

A suggestion from one of the members: Is the Association in favor of changing this law? The motion was made requesting the change in the law to permit the use of honey. The motion was seconded by Floyd Sandt. The resolutions committee presented this motion among the resolutions and it was voted favorably by a unanimous vote.

The President called the attention to the members of some literature here on the table and stated that by paying 50c a year members can secure the Bee Journals.

The Secretary-Treasurer reminded all the members to think about electing a new secretary-treasurer.

Mr. Ottle, of New Jersey, suggested that New York, Pennsylvania and New Jersey get together in team-work for an exhibition to be held in New York City. He also told the steps to be taken to have team-work. He said in New Jersey they have found that tours among the beekeepers are very popular. He suggested a tour to visit three or four beekeepers in each state.

The President expressed his appreciation to the members for not smoking and also asked any one who had just come in to please refrain from smoking.

Adjournment.

The afternoon session was called to order by the President at 1:30 P. M.

The appointment of several committees was first in the order of business.

Resolutions Committee: Walter Doud, William Kresge, Thomas Burke, Charles Hess, C. H. Kohler, D. C. Gilham.

Auditing Committee: Frederick Hahman, Floyd Sandt, Harry Merrill.

A letter was read which had been received from the Pennsylvania Motor Federation. It had to do with the expenditure of funds for purposes other than road building.

President: We will now proceed with the election of the officers.

Rev. H. M. Snavely was nominated for President by Mr. Hahman.

Nominations were closed.

Rev. H. M. Snavely was unanimously elected.

Mr. Edwin J. Anderson was nominated for Vice-President by Floyd Sandt.

Nominations were closed.

Mr. Anderson was unanimously elected.

Mr. Charles Hess was nominated for Secretary-Treasurer by Mr. Burkholder.

Nominations were closed.

Mr. Hess was unanimously elected.

———o———

D. L. BURKHOLDER, SECRETARY-TREASURER, LANCASTER County Honey Producers Ass'n, Leacock, Pa.

HONEY KRUSHED WHEAT BREAD

Friends:

Honey is used in candies and in baking. I wish to refer especially to the use of honey in making bread. Bread comes before you not once a month, nor once a week, but from two to three times daily. It is advertised from Maine to Texas, and from Maine to the State of Washington. Whenever you go in a cafeteria the first thing placed before you is bread. There is nothing else to be used as the staff of life. The honey used in bread making is used largely in whole wheat bread.

There is only one way to encourage the use of honey in baking and that is for every beekeeper to support this phase of the industry. Some say that they use honey only from an advertising standpoint. If this is true honey must have proven its merits many years ago. It would also seem as though the bakers have known more about honey than we the honey producers and beekeepers.

Before honey was used the sale of whole wheat bread was approximately 1,000,000 loaves a day for a certain bakery. This is not so large. This company started a campaign to see how the honey bread would go across. Not only did the bread go across but they increased the honey percentage in that bread from one to five per cent. So that now this baker uses 5 per cent honey and no sugar. This represents an increase in the use of honey by steps. There was also an increase in the sale of loaves from 2,000,000 to 17,000,000 a week. In a subsequent survey they found that the other baking concerns did not suffer much loss in trade. It was therefore evident that there was an actual increased consumption of bread. We are told that first thought of this baking company was that the public throughout their territory be made familiar wih the quality of the honey bread.

Honey Krushed wheat Bread was formulated by the Vremo Bakery. I do not know the analysis of the material that goes into it, but I do know it contains 5 per cent honey. So from that I think, we as beekeepers, are well pleased. This baking concern sold the honey bread, whole wheat, at an average price, then went to a high price but later dropped the price. They are well pleased with the Honey Krushed program. We know bakers who are using honey only in their white bread. I think we can feel well satisfied with the result these baking concerns have received from the advertising of our product in their baked goods.

I believe we should not allow the bakers to demand our honey, but we should sell them the idea that they need our honey. I have not been very successful in selling dark honey. The use of honey in whole wheat bread provides wonderful outlet for the darker grades of honey. The one thing I wish to emphasize in closing is that honey producers get back of this program whole heartedly.

4-H BEEKEEPING AND ITS FUTURE

by

George H. Rea, Ass't Prof. of Apiculture, Cornell University, Ithaca, N. Y.

Our extension work has this motto, "Help others to help themselves." Mr. Anderson should know a few things to be done with boys. He is supposed to use this knowledge to educate the boys to help the rest of us to help ourselves. That is the best principle in all life. It doesn't help anybody very much for you or anyone else to come around and do all the work for them.

The parents who are capable of helping their children do a piece of work, help themselves. They are doing the very thing which 4-H club work is aiming to do. If you will excuse a personal reference, I will relate the following experience: Several years ago my father and mother, who were the parents of four children, has a club before 4-H club work was even thought of. We were on 16 acres. Dad was trying to make a living. His health was poor, so the boys and girls grew up to take some part in the farm. We had a vegetable garden, potato patch, a flower garden, bees and other enterprises to be found in the country. We supplied the seeds and we did the work. The profits that were obtained after the products were marketed belonged to us. In addition we were supervised in the spending of the money obtained. This type of work is now carried on by the College and has 4-H as the symbol.

The 4 leaf clover is the emblem of the 4-H club work. "Hand, Heart, Head and Health." Doesn't this evolve the building of the boys and girls in all activities of life? The club leader or agent who miss doing any one of these things in this work miss everything. It isn't merely a question of having a lamb or a pig, this is the smallest part of the program.

As leaders we have to know something about the home surroundings, something about the health of families involved, and also about the markets. All of this is general work that has to do with the activities of the club members without knowing much about the work of the heart. Marriage and education has something to do with club work also.

I was very much interested in a talk I heard the other day. I was interested in the survey of 35,000 boys and girls between the ages of 10 and 20. Those who made the survey divided the group as to mental ability as follows: very superior 7 p. c., superior 13 p. c., high average 30 p. c., low average 30 p. c., dull 13 p. c., very dull, 7 p. c. The dull included morons or people who grasp very little of anything. The average class of people do not lead but just follow along. These people work with their hands.

When I started club work I took an old outline and redrafted it. I then supposed we could go out into the field and succeed with everything that pertained to the management. I taught the boys and girls the business of beekeeping, that the bees must be requeened, fed in spring, kept from swarming, packed up every fall, in short all the things that go into good beekeeping practices. After years of experience we found out that we had to take the boys and girls as they came and do the best possible with them. Deal with them from all of the symbol standpoints and to value character more than the knowledge required to keep a colony of bees. It does not make a lot of difference whether the club members produce an extra large crop of honey. They have the objectives of good beekeeping to strive for as well as the objectives indicated by the 4-H clover. There are nearly 27,000 4-H club members in the State of New York. If you would take these young people and line them up one back of the other you would have a line from here to Chicago.

There remains a question in my mind and it is: Do we always understand what we have been doing about beekeeping? We learn some things about beekeeping in bee journals. In more recent years, certain colleges have established research departments. In 1916 research work began in beekeeping and as a result of this work we now know much more about beekeeping than we used to.

The thing which I want to impress upon you is this. That in spite of all these facilities all we have learned in United States, in the last 30 years, we have lost approximately 50 per cent of all our bees. New York State has done worse than that. Our markets are not over crowded with honey. Figures show a decrease in honey production in New York. This loss is still maintaining and we have not nearly made up the loss of years ago. Many small beekeepers have quit and their place is being filled by a few commercial men.

There are thousands of fruit trees that do not have enough bees to properly pollinate the blossoms. The buckwheat is short of bees. A great deal of this scarcity of bees was caused by bees dieing in the winter of 1935-36. As the adults get out of the picture, there is going to be a place for the boys and girls. They need somebody to teach them. There are certain difficulties in doing this. Leadership is one of the difficulties. The boy or girl who is to carry on a successful beekeeping project should have four visits every summer. Some need two visits but it is better if they have four or five visits.

If we are to get the industry back to where it used to be we will have to look to 4-H beekeepers as a means to this end. They will help out not only with honey production but also in the field of pollination. Pollination is a serious problem to the great family of legumes. In some of the fields of New York there was a great shortage of bees. This shortage of bees made a shortage of hay. Back a few years ago there were plenty of bees, but disease has wiped many of them from the map. It is a question if we are getting the proper pollination. Three years ago a cabbage seed grower said, "My cabbage seed has not been setting properly for a while and there are not many bees around." He later obtained bees and now he has no trouble in getting a good set of cabbage seed.

I think the 4-H club has a great place and it is well to have the young people in the honey and beekeeping associations.

ARTIFICIAL MATING OF QUEENS

Dr. W. J. Nolan, Apiculturist, Dept. of Agriculture, National Agriculture Research Center, Beltsville, Md.

How many of you realize what the value of beekeeping is to American Agriculture? When you stop to think that there are about 4,000,000 colonies of bees in the country and that queens are valued at 50c a piece, you find the beekeeper has invested some $2,000,000 in queens alone. We have $14,000,000 tied up in bees. If we considered the time and labor necessary to take care of these bees, we would have a sum which runs quite high. The legumes or clovers depend almost entirely upon the bees for pollination. Whether we are beekeepers or are engaged in some other line of food production we find ourselves dependent on the activity of the bee.

Bees the becoming more important to American agriculturists for pollination. In spite of the fact that the keeping of bees goes back to early times, there has been very little progress made in beekeeping methods.

The queen breeders are forced to trust entirely to luck. A successful method for mating queens with select drones still remains to be worked out. A suggestion of a beekeeper in California for mating queens in a large cage is to be tried.

Since the bee is such a small organism, there is no definite way of telling the strain of any particular kind of bee. The method used is that of taking measurements. This includes a number of parts of the body, such as the hind legs and certain other parts. Another thing which makes it hard to tell which is a standard colony is the difficulty of getting them all of the same parents. It is hard to get a uniform colony. We can do this with large animals but not so easily with animals as small as bees.

Just a few words about what is actually being done in bee breeding. The United States Department of Agriculture has long been interested in breeding work. The work began about the time of the Civil War. It may be of interest to some of you to see samples of workers of various types of bees, the vials which are being passed around contain specimens of these bees. In addition to the bees shown I might state that there is a stingless bee but it is of little value for producing honey, for this reason few beekeepers wish to own stingless bees. The Chinese bee is smaller and is beautiful and very gentle.

You may be interested in looking over the instruments used for artificially inseminating queens. These are being passed around. Mr. Rea mentioned the fact of experimental beekeeping work in 1905, that was when it was established first, but experimental beekeeping was really begun in 1885.

During the last few years different methods have been developed for accomplishing the task of artificial insemination. Watson reduced the cost of equipment and made possible the output of a fairly large number of queens since several may be operated on simultaneously. I have here a number of illustrations which will explain the procedure in much shorter time than a verbal description. It used to be that only one set of instruments could be operated at a time but now several can be operated at a time. You may be interested in seeing one of the small glass tubes used for holding the queens. We found great difficulty in fastening the queen at first since many silk threads had to be wrapped around her body. We then developed the idea of forcing the queen into the tubes, the method by which this is done is illustrated in this folder. The inseminated queens as tested for off-spring. We are attempting to work out a method of measuring the different parts, the parts we have chosen are the leg length, the wings, the abdominal segments, etc. In case some of you may be interested in knowing how these measurements are taken I will pass this folder around which shows you.

In addition to all these characteristics we are also studying their resistance to disease.

The State of New Jersey has been working for a number of years on diseases. We have had a number of private letters and the most outstanding is the one of Dr. Watson himself. He has actually made a study of honey bees and its racial characteristics. He is also trying to perpetuate a certain kind of bee. There are a number of others that I can not name here.

The work done by different departments also indicates that each race has their own characteristics. I will also pass around a journal which shows the illustrations of the different parts of the bee.

WHAT OLD TIMERS THINK OF THE PENNSYLVANIA STATE BEEKEEPERS ASSOCIATION

Mr. Rea was the first speaker. In 1905 the State Association was started but previous to that there was an association in this Sate which went under a different name. If there is any one man that should be honored it is Mr. Hahman, since he is a charter member of the Association. The State Association had fostered an educational program and was instrumental in establishing the inspection service. There were no appropriations made for this work when the Association started. A lot of volunteer work at first was done in order to establish the inspection service.

Mr. Beard: When I think of the meetings of the Association I think of coming here and hearing discussions of beekeeping and of meeting new friends.

Mr. Hahman: I started here a long while ago, and Mr. Rea touched upon some of the points which I had in mind. We talked to different ones in the legislature to get them to pass this bill. It was passed but we were not able to get any appropriation. I think the officers of the Association deserve much credit for the interest they have put into it.

MARKETING HONEY

Edwin J. Anderson, Bee Specialist, State College, Penna.

This is one of our most difficult problems. If the several lines of commercial research develop in a satisfactory way we are going to have a decided shortage of honey since honey will be used in large quantities in several new foods. We do not, however, know how the public may react to these new products. There has been, as you know, a definite program put forth by the American Honey Institute. There is a more or less definite amount of honey going through the wholesale and retail trade. The commercial areas produce the greater part of that which enters the wholesale channels and if these markets are crowded even to a small extent there is a depression of the prices. So that the production of honey in the commercial areas gives us our greatest problems. Those sections are the ones which determine the wholesale price. The states which produce only honey for the local markets have a more or less even price.

The first thing in marketing honey is to have a clean, neat, and attractive product. That, of course, means that we must have the right kind of equipment for handling our honey. If honey is sold in sixty pound cans some of the buyers may be properly equipped to strain honey while others may not. If the honey is carefully strained when extracted it can be sold with satisfaction on any market. Even then it is difficult to get away from the foam and cloudiness. It is a problem to get extracted honey run through a strainer of very fine mesh. This requires heating and special equipment. We should always emphasize and keep in mind that we want to maintain all the natural properties of the honey. The great difference between honey and other sweets is that honey is a natural sweet with many unstable properties and as soon as we change honey chemically we are putting our product on the same basis as other sweets or syrups. We should maintain the natural properties of honey that are put there by the bees themselves.

One of the great difficulties in getting our honey into wholesale markets is that many of our beekeepers live in more remote sections and do not have sufficiently large quantities to attract large buyers. If Pennsylvania beekeepers wish to get into these channels they will have to produce more honey or sell their honey in groups . I have heard the statement made "that we are not interested in the retail trade, but what we want to do is to put our honey in sixty pound cans and get rid of it." This is a mistake I think. I have seen developed in a number of communities beekeepers who have sold tons of honey where very little honey was sold before. We have a number of young men who have developed a wonderful market in local sections of the State. By so doing they are building up an industry that will support itself. That kind of trade does not seriously effect the wholesale market.

We should put up honey in bottles that show the honey to the greatest advantage. Small attractive labels that look neat should be used. We should learn to bottle honey so that it will appeal to the eye as well as to the taste even though the taste is the final test. The bottles should be of a form that are convenient on the table. After we have this product, a clean and attractive honey, it is up to the beekeeper to develop the markets so as to increase the sale of honey.

Extracting demonstrations show that extracted honey is a natural product. If buyers know this they are willing to over-look some difference in flavor.

The market as a whole seems to be changing. There is some danger that the beekeepers will go too far in changing from comb to extracted honey. We should be careful not to change from comb honey too rapidly. In producing comb honey more or less the same principles are true. The sections should be well filled, neat and clean. They should be taken from the bees before they are too badly stained.

We get some honeydew in Center County almost every year. It is always a problem to know just when to stop giving supers to avoid the honeydew. This form of honey should not be placed on market for table use since its flavor is not pleasing. We want to put on the market only honey of good flavor.

President: I wish to introduce Mr. Elmer G. Carr, of New Jersey.

A motion was made to elect Mr. Carr as an honorary member of the Pennsylvania State Beekeepers Association. The motion passed and Mr. Elmer G. Carr was elected honorary member, January 20, 1937.

The meeting then adjourned until Thursday morning.

Wednesday evening forty-seven beekeepers attended a banquet at Jackson's Restaurant. Due to the absence of the President, the Vice-President, E. J. Anderson, acted as toastmaster.

George Rea told of many interesting experiences he had while doing extension work in the south. W. J. Nolan gave a comprehensive review of swarming and swarm control methods. Several others including William Glebe, E. G. Carr and others gave short discussions of interest.

Those attending enjoyed the banquet very much and felt that their time was well spent.

BLAIR COUNTY NOTES

By Frederick Hahman

The last days of March and first days of April—mild and sunny, afforded an opportunity to thoroughly go over and inspect the bee colonies.

The fifty colonies of the writer came through in excellent condition, with plenty of sealed honey in the hives, to carry on brood rearing until the major nectar flow will arrive at the latter part of May.

All colonies have some sealed brood. The majority of the queens are of 1936 raising. The colonies are strong in bees, there was no winter loss, and no decimation in strength of the colonies.

The maple buds are "swelling" now and pollen will be available in another week, from then on the active work of the bees will go forward.

Reports from this county are optimistic, bees have wintered good. Mr. R. M. Shoop, wintered his colonies in his bee cellar. He states that on one of the mild days in January, he moved the bees out for a flight and moved them back into the cellar afterward. He wintered some of his colonies out of doors.

Mr. J. W. Hedding, of Tyrone, reported his twenty-five colonies in best of condition. Mr. Hedding has been successful in marketing his last years crop of mostly comb honey at good prices. He used newspaper adlets of his home town and could have disposed of considerable more honey. Mr. Hedding is a retired business man and a newcomer in our ranks. All of his equipment is up-to-date and he has installed all modern methods of securing best results and what is of prime importance he knows how to use them.

LEHIGH COUNTY NOTES

A field meeting was scheduled for April 16, afternoon, by the Lehigh Valley Beekeepers Association at the apiary of Floyd Sandt, Wagner Orchards, Easton, Pa., Route 2.

On account of the cool and windy weather the demonstration on

Transferring Bees, did not take place but instead an indoor meeting was held.

Mr. E. J. Anderson was the speaker and as usual gave interesting facts about spring management and beekeeping in general.

In the evening the annual Beekeepers and Fruit Growers banquet was held in the fine basement of the new Farmersville church, located on the highway between Bethlehem and Easton.

Approximately one hundred persons were in attendance.

The Northampton County Division of the Lehigh Valley Association had charge of the affair this year. Mr. J. Eric Linde, Superintendent of the Trexler Orchards, gave an interesting talk on fruit growing and marketing . Mr. E. J. Anderson, Bee Specialist, of State College, spoke on Bees for Pollination and related his trip last fall to the National Convention in Texas. This was especially interesting to us who could not be in attendance. We were pleased to have Mr. and Mrs. Elmer G. Carr, of Pennington, N. J., and Mr. and Mrs. Roy K. Howell, of Kunkletown, Pa., as guests. The chicken and waffle dinner was delicious and the musical program equally fine, making it a well spent evening.

A reminder from the American Honey Institute that the next National Convention will be held at Washington, D. C., October 25, 26, 27, and their local committee expects a delegation or around 200 beekeepers from Pennsylvania, which gives us food and thought.

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REVIEW OF THE SEASON

The past spring has been entirely different in that the bees have reared brood during the entire winter. There was considerable brood in the hives during both December and January. In fact, the brood chambers were considerably larger in January than they were in March. This condition was undoubtedly due to the cold weather in March and the diminishing food supply. During the past two weeks—April 5-19-- brood rearing has become much more rapid and is getting back to normal.

Even though bees are in good shape now they are going to be relatively weak during the apple bloom because of the small brood chambers during March. The bees that are in the hives in April die off rapidly because of the cold winds that they encounter while gathering nectar and pollen and unless brood rearing was extensive in March the colony becomes weak in old bees by early May.

The winter losses have been extremely small. Those colonies that died either starved to death or died because of the loss of their queens. A number of colonies have died of disease. Unless weather conditions are favorable from now on many more colonies will die of starvation.

The supply of honey in the hands of beekeepers is very small for this time of the year. There is almost no comb honey left and only a few small holdings of extracted honey. The use of honey in baked goods and the advertising of honey bread have been important factors in using up the supply of honey.

Clovers have not gone through the winter in very good shape. In many fields the plants have been forced from the ground by the continuous freezing and thawing and unless we get very favorable weather during the blooming period we can not expect a large crop of clover honey. The increase in the use of lime and the heavier seedlings of alsike clover this year are going to help out the clover honey flow in future years. Dutch and Alsike clover especially will be benefited. Pasture improvement is becoming a general farm practice and is going to be a great help in the flow from Dutch clover. The limited prospects for a honey crop this year should stimulate the beekeeper to take special care of his bees to prevent swarming and obtain as large a crop as possible.

A new product in the form of a honey and fruit confection is in the process of development. If this materializes and proves as attractive as the first experiments indicate there should be a sizable addition to the outlet for extracted honey.

Package bees are being used this spring but not in such large quantities as last year. A large number are being used to strengthen colonies for pollination.

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BRADFORD COUNTY NOTES

By Harry W. Beaver

I have just got so I can buckle down to work after spending two months in thirteen of the southern states visiting the package bee shippers. Aside from the business standpoint, wife and I derived a great amount of pleasure and recreation from the trip. If one stays too close home and keeps his nose too hard on the proverbial grindstone he is apt to get dissatisfied with his business and to think that the other fellow's business is easier and more profitable than his own. Visiting with southern package men gives one a birds eye view of the package shipping situation and gives one an idea that the honey raising game is not so bad after all. They have unfavorable weather conditions to deal with at the wrong time for best results. One man told how a spell of rainy weather could spoil a whole batch of queens by keeping them in the hives just when they should have their mating flight. Another told of the warm weather during the winter causing the bees to breed up their honey supply prematurely, necessitating the feeding of tons of sugar to prevent starvation. Another cause of delay in shipment was a long spell of rain during shipping season, etc., etc. If we but knew what they had to contend with perhaps we would be more tolerant when our bees that were ordered for a certain day did not arrive just the day we expected them.

One cannot realize the proportions to which this business has arrived. Interspersed with our visits with scores of package men of all degrees of size of business we took in points of interest such as the apple orchards of the Shenandoah Valley in Virginia, the Sky-Line drive in Virginia, the Norris dam in Tennessee, the Stone Mountain at Atlanta, Ga., pecan groves through the southern states and several large cotton plantations in the Delta region of Mississippi, several apiaries afloat in Louisana, also some on scaffolds ten feet high in the Louisana swamps, the Huey Long capitol building at Baton Rouge, the big Huey Long bridge across the Mississippi river at New Orleans, also the French quarter there, the airport at Pensacola, Fla., then of course the citrus groves of Florida, the Bok Tower at Lake Wales, the Ringling Bros. Circus headquarters at Cerasota, the big sugar mill at Clewiston, where they turn out a three hundred pound sack of sugar every three minutes, day and night, also the sugar refinery at Savannah, Ga., where they refine two and one-half millions of pounds of sugar daily. We also saw one of the largest catches of fish ever taken out of the gulf of Mexico, it was estimated at fifty tons. I spent some of my spare time fishing with hook and line along with hundreds of others, and while the catches were not always big enough to boast about, we always had all we could eat and a few for the neighbors, and the new acquaintances we made were one of the many pleasures of the trip.

While visiting those congenial fellows I bought packages to replace the colonies that I destroyed last year on account of A. F. B. I think this will be the best way out, rather than try to cure them by shaking.

Our bees have all the appearance of good wintering, although we have not unpacked any as yet on account of the cool weather we have had all through April. Elm and soft maple are just in bloom (April 28th) and the bees work them freely when weather permits. Clover got a severe set back on account of lack of snow. Much of the new seeding failed entirely, but white clover in the pastures looks good, so that we may expect a partial crop from that and the wild red raspberry.

This issue has been unavoidably delayed on account of difficulty in obtaining some of the material. We hope, however, to get out nearer on time next issued.

BEE HIVES and SUPERS

OF MY OWN MANUFACTURE

Other Equipment Manufactured by the A. I. Root Co.

D. F. ZOOK

GORDONVILLE, R. 1, LANCASTER CO., PA.

PRICE LIST OF THE STANDARD SINGLE WALLED HIVE

The hive body measures 19⅞ x 16¼ inches outside, is $9\frac{9}{16}$ inches deep, is dovetailed at the corners, and made of white pine clear lumber with hand holes in sides and ends.

PRICE LIST OF BEE HIVES

	10-Frame
1 Hive N. P., with full sheets 3-ply foundation	$4.85
Same as above but with Flat Cover	4.30
1 Hive Body, N. P., with full sheets, 3-ply foundation	2.80
5 Metal Cover Hives, K. D.	13.50
5 Flat Cover Hives	11.25
5 Empty Hive Bodies, K. D.	3.50

With Hives K. D. Nails and Tin Rabbets are included but no wire or foundation. N. P. means Nailed and Painted. K. D. means in flat or knock down. Bottom boards are made of Cypress wood. Eight frame equipment 8 to 10% less.

PRICE LIST OF FRAMES

Standard or Brood Frame, per K. D.	$3.80
Standard or Brood Frame, nailed, wired, with 3-ply foundation	.18
Extracting or Shallow Frame, per 100 K. D.	3.00
Extracting or Shallow Frame, per 50 K. D.	1.55
Extracting or Shallow Frame, nailed, wired, with medium brood foundation	.11

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THE PENNSYLVANIA BEEKEEPER

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Pennsylvania State Beekeepers Association Summer Meeting and Picnic

Will be held on the Fair Ground at Troy, Pa., Friday, August 20th. Plans are not fully completed on account of the president of our association being suddenly taken to the hospital for an operation—we hope not a serious one.

Troy is surrounded by fine scenery and the apiaries of H. W. Beaver. A tour of the most interesting apiaries is being planned. There will be games of all kinds with prizes and speaking of the free and easy picnic style. There will be ample shelter in case of rain, good spring water to drink, and altogether a good time is promised to all. The Fair Ground is located at the lower end of Troy near the junction of Routes 6 and 14. Signs will guide beekeepers to the entrance of the grounds.

This will necessarily be a basket picnic so bring your lunches and enjoy the scenery and mountain air of Bradford County.

The big national meeting of beekeepers will be held in the hotel Washington, Washington, D. C., October 25th, 26th and 27th.

This will be a meeting of the National Honey Producers Association. The Southern Conference and the National Honey Institute and several nearby beekeepers associations. This promises to be the largest meeting of beekeepers ever held in the U. S. and will be worth anyone's time and expense.

* * *

FIELD DAYS

There are a number of large meetings scheduled in and near Pennsylvania this summer. The largest, of course, are the meetings at Washington, D. C., on October 25, 26 and 27. All who are able to do so should plan to make the trip and take in these meetings. There will be the tour of Washington, D. C., and the Beltsville Laboratories as well as the general meetings. There will be beekeepers present from all over the country. It is real pleasure to meet them and discuss beekeeping problems with them. Pennsylvania should be well represented there.

The Canandohota Field Day and the field day at Medina, Ohio, will probably be over by the time this announcement is read. The meeting at Medina is on August 4 and 5 and at Canandohota on August 6.

34th Annual Report of the Pennsylvania State Beekeepers Association

THURSDAY FORENOON

The meeting was called to order at 10:00 A. M. by the President, Rev. H. M. Snavely.

H. K. Beard:

I brought several pictures of old-timers. Any one who wishes to look at them may do so. In 1908 our Beekeepers' meeting met at York; in 1911 at Lancaster; in 1907 was the first meeting I attended of the State Association; 1909 it was at Lebanon; in 1910 at Philadelphia.

Enos H. Hess, Mechanicsburg, Pa.

THE USES OF HONEY IN SUMMER DRINKS

I have a recipe of a wholesome and apetizing drink that won't make you tipsy.

Some time ago I talked to a man from Atlanta, Georgia, the town that originated cocoa cola. He drank more than 15 glasses a day of this beverage. They say we are drinking 22,000,000 bottles of cocoa cola a day. If we could get honey sold at that rate we would all be much better off. I have obtained some data to give you the value of foods. The value is measured in calories or heat producing value. We live on foods produced by plants. The starches we eat break down into more simple products. Protein builds up the tissues. If we have an excess it burns up and produces fat in the body.

The caloric value of a few foods is as follows:

Milk has 325 calories per pound

Honey 1520

Cocoa cola 167

There is 6 p. c. of cocoa cola in a bottle and very little protein.

Milk and honey combined is one of the cheapest and most nourishing drinks. Milk is mentioned in the Bible 45 times and honey is mentioned 56 times, and milk and honey together are mentioned 17 times. Caleb at 5 years of age was just as strong and robust as when he was 40 years of age. One man lived 90 days on milk and honey alone. I would suggest that you honey producers go home and drink more milk and honey. The food value lies in the proteins of the milk and the carbohydrates in the honey. In addition you have that delicious aroma and flavor of the honey. It is satisfying. We should be boosting our business. For wholesomeness, economy and for good health we should drink milk and honey.

I am going to give you a sample of it. Use it and boost it. Now I hope to live to be 85 years of age and I think by keeping bees I will stand a good chance.

Mr. Rea: I do not know what our New Jersey men or any one else have noticed, but I have noticed the bees working on pears on the early part of the day but in later part of the day they do not work so much.

ANSWERS TO SOME QUESTIONS ASKED BY BEGINNERS WHOM I CONTACTED—F. W. Gravely, The A. I. Root Co., 148 Chambers St., New York City.

The beginner in beekeeping has a number of problems which should be given serious consideration, and it does not matter a lot whether he intends entering bee keeping as a hobby, a sideline, or as a profession. There are decisions to be made in either case, but more serious thought should of course be given in case one intends entering beekeeping as a business.

One of the first considerations of the prospective beginner, is where to secure bees and equipment.

Occasionally, second hand equipment can be purchased at a very low price, and sometimes a complete apiary including bees and all the necessary equipment for operating them can be had at a reasonable figure, but before purchasing either, one would do well to ask the advice of his State Department of Entomology. Through this source he should be able to contact his local inspector, from whom he can get information as to the equipment offered, which information may, in the long run, save him a lot of headaches. No one can be too careful in avoiding the possible purchase of diseased bees or equipment, even though it is my personal feeling that there are very few, if any, beekeepers who would knowingly sell such equipment.

The average beginner will probably find it to his advantage to purchase new equipment, and package bees, which can be had from a local distributor of some leading bee supply house. These local distributors are usually in position to give good advice and information and be of assistance in setting up the equipment.

Package bees can also be had direct from reliable breeders in the South, and for this locality I would say they should be installed between April fifteenth and early May for best result. Reliable instructions for installing the bees are supplied by the shippers, and if the instructions are followed carefully, and the package secured sufficiently early, and fed properly, for several weeks, they should give a reasonable surplus the first season. In fact, in some cases they have done better than overwintered colonies.

My recommendations for the Eastern states is the standard ten frame hive with an extra full depth super for a food chamber and extra breeding space during the early part of the season, regardless of whether you produce comb or extracted honey.

The shallow super may be sufficient as a food chamber, and perhaps equally as good as the full depth, but it has been my experience that it does not supply sufficient brood rearing space early in the season in every case, so why not play safe, and in doing so, keep your equipment standard. If you intend to produce extracted honey, the standard full depth extracting supers are preferable. Include sufficient additional supers to take care of a normal expectation of surplus, and you have standard equipment throughout, which is interchangeable, and which you will find an advantage in many ways.

There are a number of good comb honey supers on the market, but my preference would be for the beeway or the 4 x 5 size. The beeway type is by far the most popular. If you intend producing comb honey, the comb honey supers should not be put on the hives until there are indications that nectar is coming in, in fair quantities. To produce the best quality comb honey, you must have a reasonably heavy honey flow so that the sections will not be on the hive sufficiently long to become soiled to any great extent.

To accomplish this, the double full depth brood chamber hive works well, as the large amount of space usually provides sufficient room for the best queen, along with space for storing any surplus from minor sources before the main honey flow.

When the comb honey supers are put on, the colony should be reduced to one story containing the queen and as much brood as possible, and instead of putting on one super, put on two or three.

The remaining hive body should have most of the bees shaken from the frames in front of the original hive, after which it can be set to one side on a bottom board with the entrance reduced and given a virgin queen or queen cell, with the object of uniting and requeening later in the season, or may be placed one or more on a weak colony, to be filled and returned at the end of the season for winter stores.

A complete outline of this management in comb honey production and swarm control was written by the late George S. Demuth, who was considered one of the best authorities on comb honey. This outline is printed in a small booklet which is free, and which is always sent or handed to the prospective beginner.

This method of management will, to a large extent, prevent swarming, and swarming can be almost completely controlled in extracted honey production by giving ample super room, which in many cases now consists of giving two or three full depth supers at the beginning of the season with the result that the bees will enter them as they are needed, eliminating the possibility of a crowded condition any time.

Beginners will almost always want to start with comb honey equipment, and for the one who makes bee keeping a hobby, it probably does not make a great deal of difference. I try if I can to get them to produce chunk honey in shallow frames, or extracted, as success is more nearly assured. For the sideline or professional beekeeper, this is an important matter, as it may mean the difference between success and failure or profit and loss.

Some beginners can and do succeed in the production of comb honey of fine quality in areas suited to comb honey production, but the average person will be more successful with extracted production until experience has been acquired, after which the consideration of comb honey should be based on condition.

It is my opinion that extracted honey can be produced profitably in most any locality in this vicinity, but of course, at a better profit in some locations than in others. To produce comb honey, one should have a location where there is a heavy flow of light colored nectar. One experience in trying to market sections of mixed flavors and colors will likely satisfy the average person, with probably the result that he will condemn beekeeping as unprofitable. There are favorable comb honey locations, in this vicinity, but they must be selected with care.

If one intends entering beekeeping on a commercial scale and is free to do so, he would do well to give the matter of location serious consideration from the standpoint of possible yields, as well as available inspection service.

One of the most difficult questions the beginner asks, is about the yield per colony. This varies so much in different locations, and in different seasons, as well as under different management, that the answer cannot cover all conditions. It has been my experience that bees will usually respond to good treatment and proper management with a fair surplus, under reasonably good weather conditions, and a reasonable expectation would probably be from sixty to one hundred pounds of extracted honey, with perhaps a third less comb honey.

Information is frequently sought as to the best thing to plant for nectar, to which the reply has to be that if the only object is profit from surplus honey, unfortunately nothing will yield sufficient to justify the planting, and we have to advise dependence on the natural sources.

If, however, one has vacant land or an orchard, where for any reason a cover crop is desired, then alsike clover, sweet clover, white clover or buckwheat can be sown. All of these make excellent cover crops and are good nectar producers.

There is of course not a Wall Street fortune in beekeeping, but if one loves bees, the pleasure which is derived from working with them, plus the profit, pays well.

The motion was made to adjourn for the noon meal, and to continue the meeting beginning at 1:30.

THURSDAY AFTERNOON

Prof. Edwin J. Anderson, Bee Specialist, State College, Pa.

EXTRACTING EQUIPMENT FOR THE HONEY HOUSE

This presentation was an illustrated lecture with slides showing the equipment used in a honey house.

BUSINESS SESSION:

Reports of the auditing committee.

This report was accepted.

Report of Resolutions Committee.

This report was as follows:

Be is resolved that:

We the members of the Pennsylvania Beekeepers' Association meeting in annual session at the Farm Show Building being sensible of the consideration of our problems, and the time, thought, and effort that our Secretary of Agriculture, the Hon. J. Hansel French, has so kindly accorded us, and being appreciative of the great value of the additional appropriation he granted for the enlargement and continuation of the disease inspection work among our bees, we wish to express our appreciation.

Be it resolved that:

Our Secretary be instructed to express our appreciation to the Hon. J. Hansel French for his interest in beekeeping and the Marketing of honey and the sample of honey bread he so kindly brought to our attention.

Be it resolved that:

We express our desire that more space be granted for the display and exhibition of honey and apiary products. As the apiary department of this show is increasing in size and the space alloted is inadequate. It being necessary to display only part of each exhibit entered at this 1937 show so that all might participate who had entered.
Be it resolved that:

The Penna. State Beekeeping Assn. recognizing the purity of honey as a food, its ease of digestion and its beneficial effect on the human system, recommend the amendment of the act governing the manufacture and sale of soft drinks and other beverages so that the use of honey as a sweetening agent may be permitted.
Be it resolved that:

The P. S. B. K. A. ask the consideration of the Farm Show Commission of our need for better meeting room facilities. Our meetings are crowding, our present accommodations and noise of meetings in neighboring rooms is very distracting.

Be it resolved that:

The Assn. expresses its appreciation for the fine work of its Secy-Treas. A. T. Keil and for his untiring efforts in increasing of our Membership and for his work on the staff of the Penn. Beekeeper.

Be it resolved that:

The Penna. Beekeeper Assn. endorse the resolutions of the Penna. Motor Federation as follows:

The Penna. Beekeepers Assn. has this day officially passed the following resolutions:

BE IT HEREBY RESOLVED THAT whereas Pennsylvania highways the State over are in need of improvement and modernization: and

WHEREAS the farmers of this state are important users of highways and contribute their full share of license fees and gasoline taxes; and

WHEREAS their interest in highways is seriously threatened by those interests which would use highway funds for purposes not remotely connected with highway development;

We, the Pa. Beekeepers Assn., hereby go on record as favoring the early enactment of an Amendment to the Constitution of Pennsylvania which will require the expenditure of highway funds for no other purpose than the construction, upkeep, improvement and administration of the Highway System.

Be it resolved that:

The need for experimental work in apiculture and its related problems, Pollination and nectar secretion as well as disease control is recognized. We recommend for your consideration, the establishment of facilities and personnel to carry on this work at our Penna. State College.

Our Assn. has suffered loss by death in the past year the following members who have departed for the quiet shore.

Mr. G. W. Messinger, Mechanicsburg.

Mr. Henry Moyer, Boyerstown.

Therefore be it resolved that:

The Penna. Beekeepers Assn. express its feeling of loss and sorrow to the families of these departed members.

Thomas A. Berkey, D. C. Gilham, Charles S. Hess, Resolutions Committee.

The resolutions were accepted as a whole.

A suggestion was given by one of the members that the Beekeeping Association should contribute to the American Institute. A motion was made that we pay $20.00 to the American Honey Institute. This motion was accepted and voted on unanimously.

A letter from Mr. Wilson, a honey cooking expert, concerning the itinerary from Mrs. Jenson. This letter was read. She is making a trip this summer and can stop in Pennsylvania for a couple days and she would probably make it possible for us to plan for some meetings.

The members decided that the President and Secretary-Treasurer of the Association to arrange for her itinerary for the next summer.

The subject of membership was discussed in reference to the length of time a member not in good standing should be allowed to remain on the roll. The final decision was to let the Secretary-Treasurer use his own judgment on this matter.

In consideration of the fact that Mr. Gilham had taken some of his candies to the banquet to give the members as a sample, and since Mr. Gilham was back with his dues a year the members decided through a motion to pay his dues for the back year and one year in advance.

A committee was appointed to represent the State Beekeepers' Association on the Agricultural Council and the Farm Show. The committee is: Charles S. Hess, A. C. Trainer, Roy Howell.

A suggestion was made that the Secretary-Treasurer's traveling expenses be paid to the Association meetings, which are held in the summer and winter. A motion was made to this effect, the expenses to include his traveling expenses according to railroad rates. The motion was accepted.

REPORT OF APIARY INSPECTION

After Mr. Kirk read his paper he introduced the new apiary inspector.

WILLIAM GLEBE.

For inspection to be done effectively, is not a one man job, and I plead with you to give me your full cooperation and I promise you I will give you the best that is in me. That is all I can offer.

Prof. George H. Rea, Ass't Prof. Apiculturist, Cornell University, Ithaca, New York.

WINTER MANAGEMENT

A man told me a while ago that you can't talk about managing in the winter time that it is the beekeeper who needs managing.

I would like to answer some of the questions we get from beginners and from those who want some advice on how to manage your bees in the fall so that they might have a good production of honey the next year.

I would like to have some help in this discussion. I wonder if somebody could tell me what the principle factors are that must be present to insure successful wintering of bees.

First is young bees. I like a word that means more than "plenty." I think there is one, for instance, "abundance."

Quality of food is next. There are going to be thousands of colonies of bees in the States of New York and Pennsylvania that are going to die this winter because of lack of quality in winter stores. The late honey is thin, crystallizes quickly and lacks quality. If the bees can fly all winter we will have lots of bees but if they can't fly we will have heavy losses. In order to obtain an abundance of young bees, you should always have as many young queens as you can.

Abundance of insulation is also important. It pays to insulate bees since they must maintain temperatures of 57 degrees or higher. There is no doubt that the colonies will produce better the next season if they have protection during the winter.

An abundance of room must be provided. The bees need plenty of room for brood rearing and the storage of nectar. With these factors in mind we are working toward a large honey crop next spring.

The principle factors in spring are: First, an abundance of bees. There must be an abundance of bees of right ages in order to maintain the colony moral.

Abundance of room is important. We need abundance of room for food and clustering space for your bees. Room for the queen to lay eggs, and in addition an abundance of room for storage of honey crop. There was a New Jersey beekeeper who took up beekeeping and he wrote me one day and said, "I have done everything you have told me, but the weather man has failed to cooperate and I didn't get hardly anything." We should know more about these factors. There are two story hives but this is not a new thing. There are some people who still think the two-story system will not work. E. R. Root in 1909 was the first to mention the two-story hives. Then the beekeepers over the country began to adopt the two stories and they found the new method very successful. The two-story system is effective but its success depends upon those things which I have mentioned just previously.

The ground under the bees must be kept dry and protected to prevent freezing underneath the colony. In 1933 or rather the summer of 1933 one man who had been having trouble, wanted to know if there was not something he could do to improve his wintering. We analyzed his troubles and found some of his difficulties. For one thing he had his bees flat on the ground. We moved his colonies together in groups of two and put straw around them. The straw was kept in place with tarred paper. Lath was tacked over the paper on the bottom of all sides. One lath was cut in two pieces and put on both ends. We put about 6 or 8 inches of oat straw all around, and nearly a foot on top. The lath was nailed with 8-penny finishing nails. Over 300 colonies were packed in this way.

When the first nice day came on the 15th of March I thought the bees would all be dead, but there wasn't any loss to amount to anything. The colonies were strong and in such condition that one could take them and do a lot with them.

The bees were unpacked at fruit blossom time.

W. E. Davis, R. D. 1, Wayne, Pa.

BEEKEEPING IN THE W. P. A. EDUCATIONAL PROGRAM

Just a little verse he read before he began on his subject.

As a rule a man's a fool
When it's warm he wants it cool
When it's cold he wants it hot—
Always wanting what is not.

Origin and authorship of the verse is lost in the mists of memory, but I feel privileged in borrowing it for this occasion because it applies so aptly also to bees—although in their case it is sheer necessity rather than mere whim that spurs the demand for moderate weather.

This was illustrated last year in Montgomery County in the beekeeping activities of amateurs and professionals alike under sponsorship and guidance of the adult education department of the Federal Progress Administration in conjunction with schools, granges and other organizations. It was my pleasure and privilege to direct this feature.

Starting early, about the tenth of March, the season of 1936 looked as though it were going to be a good one, until April fooled us with a blast of cold weather. The weather turned too cold for brood rearing and bees did not build up as they should.

Our first disaster came with the drowning of a hive of bees on which a feeder had been left over the cold spell, which lasted about a month.

Later in the year the other extreme of weather took a heavy toll, dryness, high temperature, with scarcely any rain for more than two months, halted nectar gathering and left bees starving.

Small wonder, then, that the bees, if their buzzing could be translated, might be heard humming a plea for a change to more suitable weather in this extremely important part of the year.

Before confining myself strictly to the subject of bees and honey, let me tell you of one of the outstanding human interest sidelights that brightened our program.

There lives near Perkiomenville in Montgomery County's beautiful Perkiomen Valley a retired naval surgeon, Dr. W. T. Minnick. When he left the navy five years ago it was with the dictum that he had "two years to live." But by living a careful, well regulated and routined life, with plenty of outdoor activity, he has proved his fellow physicians wrong.

Last Spring Dr. Minnick became interested in bee raising when the W. P. A. appointed me as the Montgomery County B-Man. He bought a package of bees. They lost their queen and became greatly weakened. I obtained for him a new queen and more bees, which promptly killed their new queen. I provided still another queen, but it was too late in the season to accomplish much.

"Bad luck for the doctor," do you murmur? Not at all. He didn't have much success at cultivating bees and producing honey, BUT—here's the story—he has become apparently cured of diabetes, he reports, and he attributes his regained health in general to his active outdoor life, including the interesting field of bee culture, and in part to use of honey in his diet, chiefly as a substitute for sugar.

So that five years after he was given only two years more to live, Dr. Minnick is in good health, strong and hearty and one of the most enthusiastic members of the W. P. A. beekeeping groups.

While on the subject of human interest, it might be appropriate to tell the story of John Ondra, a little fellow from Pennsburg, who became interested in beekeeping through W. R. Shanley, retired postmaster of Pennsburg.

John had a difficult time in getting started. His first queen bee died of undertermined cause and his hive was very weak by the time the loss was discovered. Another hive of bees was supplied, but the queen laid infertile, or drone, eggs and was slain by her subjects.

Still another hive was supplied, about that time rain set in, and the hive was quickly filled with honey, much to the surprise of Mr. Shanley and myself. John, was doubly puzzled, for he confessed he didn't know how to eat the honey.

Right then I started a new beekeeping course, entitled, "How to Eat Honey." John can take it now, and he likes it.

Sugar syrup was used extensively as a tonic for bees in wintering, about 10 pounds per hive being used to avoid dysentery among the bees, and with good results.

Because of the drought, 72 of our hives were removed from the arid section to a nectar-bearing territory along the Delaware River at Foxcroft, blow Philadelphia, where an average of 25 pounds of surplus honey was gathered and taken off.

Raymond Hess of Trappe, a Collegeville High School student, had a hive in the dry section, he fed his bees and gave them the best of care, building them up to such a strength they wanted to swarm. Though the bees were adjacent to a large clover meadow in bloom no honey was obtained.

"Yes, anything to get honey," was his reply when asked if he wanted his bees "transplanted" and he got the honey, a 50-pound surplus in the fall greatly pleasing him.

While nearly 3,000 pounds of honey was produced by members of my W. P. A. groups, this was only about half what the crop would have been but for the casualties of severe weather. Much of this honey was sold, at wholesale for from 12 to 18 cents a pound and at retail for 25 cents a pound, but a great deal was retained by the beekeepers for their home use.

My three sons, William E. Jr., Robert E. and Benjamin, with one hive each, produced 25 pounds of extra honey apiece, getting off to an early and good start. Robert, incidentally, used to be the youngest beekeeper in Pennsylvania, having been awarded a prize for that distinction by the Pennsylvania State Beekeepers at Lancaster in 1935. He's 11. But Benjajmin is only 8, so maybe the honors are his now.

Interesting results were plentiful among the school bee classes.

Members of Worchester High School Bee Class earned money at odd jobs to buy a hive, produced 40 pounds of honey and sold it to obtain the price of more hives.

The Board of Education bought a hive and a package of bees for the Conshohocton High School Club charged an admission fee of 5 cents for the Federal moving picture "Realm of the Honey Bee" and thus raised $10.50 to start its bee business. But the hive was stoned by vandals, the queen and some bees killed. The pupils got a new queen, moved the hive to a better location and obtained 24 pounds of honey for distribution among as many members, 22 girls and two boys. Now the girls are studying how to cook with and use honey.

Our work was not confined to school and farm classes. One of the most unusual and interested groups was that formed at Eastern State Penitentiary at Graterford, where the agriculture instructor, Ira J. Mills, enlisted 26 convicts and one guard in a bee club, a hive being provided by the State. It is hoped that beekeeping and honey production will be a means of livelihood to help the prisoners go straight when their terms are up.

At the peak of enrollment last year we had about 285 students in the bee and honey courses, many participating merely in the uses of honey for cooking, baking and other household purposes and not actually raising bees. We expect much larger enrollment in spring, particularly among those interested in pollenization of fruits and farm crops.

Our classes include rich and poor, those with and those without jobs, teachers, professors, physicians, students, farmers, pure food specialists and many others, of ages from 10 to 80. The instruction is free to all who desire it, for pleasure or profit, education or hobby, vocation or avocation.

I am training as many as possible to become honey demonstrators and distributors of honey and its products.

We are opening our home to all interested for educational and research classes, and we hope to establish a medical clinic using bee stings for relief of rheumatism and other ailments.

One of my deeply interested students, Mrs. Aura Thompson of 1404 Harding Boulevard, Norristown, affiliated with the Norristown High School Bee Club, is making excellent progress experimenting with honey uses in her own kitchen and going out teaching other women in their homes on "honey and its uses."

We hope to help the merchant sell honey, the consumer, baker and cook to use honey more advantageously and the bee keeper to produce and dispose of his honey. If we can create a demand, the honey will sell itself. When folks get to know how valuable honey is to the human system in keeping it well and in good health, and its medical values, they will want and demand it.

We want to serve and help all interested in honey from any angle and bring about closer co-operation between the beekeeper and fruit grower. Beekeepers of many states are realizing the need of a blending plant. Physicians are hesitant to recommend honey for sick people and as a food for infants and older children because it is not standard. Although pure, honey isn't standard because it comes from all kinds of flowers, fruits and trees. But it can be mixed and blended into any certain standard that may be adopted.

I hope we can be instrumental in starting such a plant in Montgomery County. If this program is good enough for Montgomery County, it will be good enough for the state and the country.

I am a member of the American Honey Institute and the American Honey Producers League and am co-operating fully with both.

President Keil:

The history of all the old presidents and other officers and of the old meetings is to be finished. The new Sec'y-Treas. is to keep it.

The President called for a motion of adjournment, the meeting then adjourned.

REPORT OF APIARY INSPECTION—1936

H. B. Kirk

The same general plan of Apiary Inspection was carried out in 1936 as has been practiced the past eight years.

38,722 colonies of bees in 6,510 apiaries were inspected. Illegal hives have been reduced to 6.4 p. c. as compared to 32 p. c. in 1929. 12,938 box and crossed comb hives have been burned by the inspectors during this eight-year period. This reduction in box hives makes possible more thorough inspection and a considerable amount of time formerly used for inspection of these old hives can be utilized for disease control work. With an appropriation sufficient to employ twenty inspectors, illegal hives could be reduced to less than one per cent in three years. Regardless of the number of inspectors, box and crossed comb hives can be reduced proportionately to the number of inspectors employed. This is not true in the control of bee diseases. With an average of eleven inspectors the past eight years we have just been able to hold American Foul Brood to about eight per cent. The control of American Foul Brood in queen apiaries has been very simple. These apiaries have been inspected once or twice every year and herein lies the secret of our disease control work in commercial apiaries.

At this time I would recommend that as long as there is not a sufficient number of deputy inspectors to cover the entire state every year that some special attention be given to beekeepers who depend on beekeeping as one of their main sources of income. I would suggest that an effort be made to inspect all commercial apiaries and those within a distance of four miles at least once every two years.

Considerable interest was manifested the past two years in respect to money appropriated by a county for apiary inspection work in that county. The past season the Counties of Lehigh and Columbia appropriated money for the work. In both cases the counties selected on the recommendation of the Bureau of Plant Industry very able inspectors and the work was carried on in both instances in a very efficient and satisfactory manner. Prospects are that additional money will be appropriated by other counties to supplement the regular state appropriation.

In addition to the county appropriations an additional $2.000 was diverted from other projects in the Department of Agriculture to apiary inspection needs. Both the county appropriation and the additional $2.000 of state money was received by the efforts and influence of the Pennsylvania Beekeepers Association. I would recommend that a committee be again appointed to meet with the Secretary of Agriculture, Mr. J. Hansell French, and make an effort to get additional funds. Likewise, we must not forget the importance of educational work in connection with our law enforcement program. The work being done by Professor Anderson of the Pennsylvania State College with the 4-H Club Members has an important bearing in the control of disease. This will continue to increase as time goes on. These boys all have proper equipment and know nothing but the use of good frames with full sheets of foundation. I have had occasion a number of times to use these boys for examples when trying to induce some old beekeeper to get rid of his old box hives. Beekeepers, themselves, must learn to be their own inspectors and be able to determine the difference between the several important brood diseases.

I would recommend that the Pennsylvania Beekeepers Association make every effort to get additional funds to carry on the Area Clean-up plan of inspection begun in 1927. If from fifteen to twenty deputy inspectors could be employed, the eight per cent of American Foul Brood found in apiaries the past seven years could be steadily reduced and it would be necessary to burn only a few colonies each year instead of the 12,938 colonies burned by the inspectors the past seven years.

SUMMARY OF APIARY INSPECTION WORK FROM 1927 TO 1936 INCLUSIVE

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Weeks of Inspection	52	63	125	190	226	224	121	138	85	169
No. of Inspectors	4	5	8	14	15	15	7	10	7	11
No. of Apiaries	2,128	2,249	4,412	7,187	7,397	8,486	3,964	5,365	3,118	6,510
No. of Hives in Average Apiary	7.3	9.5	8.5	6.7	6.4	6.5	7.3	6.7	7.1	6.0
No. of Colonies Inspected	14,070	14,028	28,112	48,246	47,587	53,548	29,155	36,185	23,727	38,722
Percentage Diseased	3.4	11.9	16.0	9.9	6.8	9.8	7.0	7.8	6.6	9.7
Percentage in Unlawful Hives	23.6	22.2	32.0	19.4	19.3	15.0	13.0	9.5	8.7	6.4
Colonies Burned				537	2,163	4,130	1,051	2,275	426	2,356
Prosecutions	1	13	130	89	19	7	6	9	1	0
Paid Fine or Served Time	1	13	126	78	15	0	2	5	1	0
Application for License for Selling Queens	12	13	12	8	6	8	8	8	14	10
Licensed Queen Apiaries	5	8	6	6	5	7	6	8	14	9

ALLEGHENY COUNTY NOTES

By A. T. Keil

Bees came through the winter about 100 p. c. in this section built up rapidly and brought in some fruit, wild crabapple and berry honey. Had a good honey flow from locust, many colonies giving 50 lbs. surplus, where colonies were strong regardless of too much rain and cool weather.

Plenty of sweet clover in bloom now, but so far have not had a honey flow. Alsike seems to have been froze out last winter as it is scarce.

Received a letter from son, who is taking care of bees around Findlay, Ohio, July 1st, and he advises there is too much rain out there. One yard there was about four inches of water in the hives for six hours, but the bees seemed to have come through it without much loss and now are bringing in a crop of honey. One yard about 1-2 mile back from the hard road could not visit for over two weeks as there was a regular swamp all around the hives.

Allegheny County is again having their Annual Free Fair September 1 to 6 inclusive at South Park. This is a regular old fashioned fair and well worth coming to see. The beekeepers from this county expect to again have a large display of apiary products. All exhibits, games, parking space, etc., free to the public.

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BEEKEEPING CONDITIONS IN CUMBERLAND COUNTY

This has been an unusual season for this part of the state. While this is not a survey of conditions of the entire county, I think local conditions are pretty much the same over the county, except in sections where there is no sweet clover. The bees came through the winter in good shape, and the season started with an unusually good outlook. The locust bloom was as heavy as any in recent years; the fruit bloom came in also heavy, and clover started out in abundance. The entire season being about a week late. All this gave promise of a big crop. Since the first clover blossoms appeared, however, there has been an intermittent flow of nectar. Soon after the comb honey supers had been put on there was a spell of rain that lasted nearly ten days. This was, of course, hard on comb honey production. We have had several rains since that time, which will prolong the honey flow.

The present conditions look favorable to getting a normal crop. The clover continues to bloom. While the sweet clover had been cut for hay the little white clover is blooming everywhere. This should insure a good yield, and possibly will go to make for the slowing up of recent weeks. In areas where sumac is plenty it yields heavily. Taking the whole season it looks as though the crop may be equal or perhaps above the average.

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ERIE COUNTY NOTES

E. E. Root

There has been very little honey flow here at all. The nectar is all being washed out of the blossoms on account of so much rain and this causing a very bad condition in the bees wanting to swarm. As brood rearing was the heaviest I have seen in the last three years, with so much rain causing crowded conditions, there have been lots of swarms that have gotten away from beekeepers this year.

Then we have another very bad condition which is foulbrood. There has been a very bad condition in this disease and there seems to be no let up or end to it at all.

There is a very good outlook for a fall crop and a very large amount of sweet clover if the rain won't be too severe on it. We will get some of this honey. There is quite a lot of buckwheat being sown at present.

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REVIEW OF THE SEASON

Edwin J. Anderson

The present season has not been very good up to the present time. Locust and fruit yielded exceptionally well, but a good bit of the honey produced by them was used to fill the brood chambers. One beekeeper in Fayette County recorded a 78 pound gain in seven days from locust and other spring flowers. The surplus from locust was harvested in the southern tier counties and not in large quantities north of this area.

Alsike and Dutch clover yielded very little surplus during June and not much during July. The weather was wet and cold for a large part of the time and the clover itself was in very poor shape. A large part of it was frozen out during the winter months. As a result light comb honey is a very light crop in Pennsylvania to date. A good share of that produced is light in weight and darker in color than that produced last year.

Sweet clover has yielded a fair surplus to date but there is not a great deal of it in the state this season. Some of it has been cut for hay.

Basswood and sumac have been yielding heavily in some sections. This flow may produce some light comb honey.

The demand for honey by the small bakers is not as heavy as it was last winter. It is entirely possible that the demand will improve when cold weather comes in the fall. With the present scarcity of light comb honey the price should be at least as good as it was last year and there will be no need of dumping distress lots on the market at exceptionally low prices.

The flow from buckwheat and fall flowers is, of course, an unknown factor at the present moment. The writer is expecting a heavy flow from the buckwheat this year.

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SCHUYLKILL COUNTY NOTES

By D. C. Gilham

Have been busy getting supers ready for the bees and checking up on queen cells. Plenty of queen cells and no honey to speak of so far in this section. On 150 colonies I don't have one finished super of extracted honey. Some honey in the supers, very little in brood chamber and just about enough to keep them going. Plenty of brood and bees if we get the flow now or later.

In reference to the article in the Penna. Beekeeper for April. They have "Green" honey for "Granulated." Not mentioned in article but I said that the liquid honey makes just as fine a marshmallow as the granulated honey, especially if granulated honey is sandy instead of smooth as the whipping will not always break up the granulated honey.

Another error, the temperature on heating the gelatine. Should be 145 degrees instead of 45.

Another error. In making the marshmallow with agar gelatine. Whip the egg albumen and then pour slowly the honey and gelatine into the egg albumen while machine is whipping the three ingredients together. Honey and gelatine are first mixed together.

The above errors would throw anyone trying to make the marshmallow, all out of order and they would not get any results.

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BRADFORD COUNTY NOTES

By Harry W. Beaver

Since writing our notes for the April number we have had the highest hopes and brightest prospects for a clover and basswood crop ever, and have had the slimest white honey crop in years. The bees wintered perfectly and all the minor sources of honey and pollen, such as elm, soft maple, hard maple, fruit bloom, dandelion, etc., all had full bloom and yielded more than enough for brood rearing. We seldom get any honey from these sources, and this looked like a forerunner to a big clover crop, as clover looked the best in years, but alas the days went by and so did the clover and basswood bloom and the scale colony failed to show any appreciable gain, therefore we are extracting the smallest white honey crop ever.

We will extract only about half of our yards, the balance have nothing, some in fact will not have any too much to put them through to buckwheat.

Swarming was a big problem. It took all hands for several weeks to get the upper hand. There would have been an avalanche of swarms if there had not come a rainy week in the nick of time which checked for good. Also stopped the honey flow. Foul Brood has not been nearly so bad this year. I think by weeding it out, both spring and again in August, is bound to get it eradicated in time.

A word about the summer picnic. I have not received as yet a program but it will be published in another part of this issue. I am sorry we do not have accommodations for the meeting at our place, but at the Fair Grounds there are facilities to accommodate any sized crowd that might come. The entrance to the grounds is just north of the junction of Routes 6 and 14 just at the lower end of town and very easy of access.

We have several yards made up of three pound packages bought June 1st, one of them being caucasians, which may interest some, and others may like to view the buckwheat fields which will be in full bloom by August 20th.

And so we will be seeing you at the big picnic.

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THE PENNSYLVANIA BEEKEEPER

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Prepare for the Farm Show

Due to the extremely poor season the exhibit at Harrisburg this winter will probably be smaller than that of last year. It will also be difficult for the beekeepers to select an exhibit equal to that of the past few years. This fact, however, should not discourage those who have exhibited before since the season has effected all alike. It is more important now than ever for each beekeeper to make a special effort to show since we should fill our space if we are to expect a full space next year when more space may be available. The time of the show is not far distant. Exhibits should be selected and prepared now if this has not already been done.

A few points to keep in mind to help improve an exhibit and place it higher for prizes are as follows:

For Comb Honey.

1. Select well filled sections.
2. The cappings should be white and even.
3. The wood of the section should be clean.
4. There should be no blemishes on the comb.
5. The more cells filled next the wood the better.
6. Plain cellophane is ordinarily a little more desirable than other forms since it gives the judge an opportunity to see the entire section.

For Extracted Honey.

1. The honey should be placed in new bottles.
2. It should be clear and free from crystallized honey.
3. There should be no particles of wax or foam on top.
4. The honey should have a good flavor and not be burnt or mixed with honey dew.
5. It should be thick with good body. Thin watery honey ordinarily does not grade very high.

Collective Exhibits.

1. They should contain a good variety of apiary products (dark and light honey, beeswax, etc.)

2. All parts of the exhibit should be neat and clean.
3. The exhibit should be balanced with no parts out of proportion to the rest of the exhibit.
4. It should be carefully and artistically arranged so as to be attractive at first sight.
5. A little color and decorative material often help an exhibit.

In closing this discussion it would seem proper to urge the beekeepers again to make every effort possible to put up an attractive exhibit.

AWARDS OF THE 1937 SHOW

Those beekeepers taking prizes at Harrisburg last winter are as follows. Space does not permit the publishing of the entire list accordingly only the first five are given below:

Class 98..Light Comb Honey.

Entry No.	Name	Address County	Place	Am't
LIGHT COMB HONEY				
5	Le Roy Spayd	Myerstown, Lebanon	1	$5.00
11	Trexler Farms	Schnecksville, Lehigh	2	4.00
9	Roy K. Howell	Saylorsburg, Monroe	3	3.00
10	Treesdale Farms	Mars, Allegheny	4	2.00
1	Floyd H. Sandt	Easton, R. 2, Northamton	5	1.00

Class 99..Dark Comb Honey.

Entry No.	Name	Address County	Place	Am't
50	Floyd H. Sandt	Easton, R. 2, Northamton	1	$5.00
54	Roy K. Howell	Saylorsburg, Monroe	2	4.00
53	D. C. Gillham	Schuylkill Haven, Schuylkill	3	3.00
55	Treesdale Farms	Mars, Allegheny	4	2.00
57	Clarence Locke	Cambridge, Crawford Springs, R. D.	5	1.00

Class 100..White Extracted Honey.

Entry No.	Name	Address County	Place	Am't
111	Lukas Bros.	North East, Erie	1	$5.00
113	Trexler Farms	Schnecksville, Lehigh	2	4.00
112	Ernest Houtz	Myerstown, Lebanon	3	3.00
114	Roy K. Howell	Saylorsburg, Monroe	4	2.00
104	John S. Eby	Manheim, Lancaster	5	1.00

Class 101..Extra Light Amber Extracted Honey.

Entry No.	Name	Address County	Place	Am't
150	Floyd H. Sandt	Easton, Northampton	1	$5.00
157	A. T. Keil	Mars, Allegheny	2	4.00
161	Enos H. Hess	Grantham, Cumberland	3	3.00
162	H. W. Dennis	Allentown, Lehigh	4	2.00
166	W. O. Hershey	Lancaster, Lancaster	5	1.00

Class 102..Light Amber Extracted Honey.

Entry No.	Name	Address County	Place	Am't
212	Trexler Farms	Schnecksville, Lehigh	1	$5.00
210	Roy K. Howell	Saylorsburg, Monroe	2	4.00
202	C. F. McNaughton	Millerstown, Perry	3	3.00
200	Floyd H. Sandt	Easton, R. 2, Northampton	4	2.00
203	Miss C. G. McNaughton	Millerstown, Perry	5	1.00

Class 103..Amber Extracted Honey.

Entry No.	Name	Address County	Place	Am't
259	Trexler Farms	Schnecksville. Lehigh	1	$5.00
260	Lukas Bros.	North East, Erie	2	4.00
258	Treesdale Farms	Mars, Allegheny	3	3.00
257	Roy K. Howell	Saylorsburg, Monroe	4	2.00
250	Floyd H. Sandt	Easton, Northampton	5	1.00

Class 104..Dark Extracted Honey.

Entry No.	Name	Address County	Place	Am't
300	Floyd H. Sandt	Easton, Northampton	1	$5.00
309	Trexler Farms	Schnecksville, Lehigh	2	4.00
306	D. C. Gillham	Schuylkill Haven, Schuylkill	3	3.00
307	Roy K. Howell	Saylorsburg, Monroe	4	2.00
310	Lucas Bros.	North East, Erie	1	1.00

Class 105..Crystallized Extracted Honey.

Entry No.	Name	Address County	Place	Am't
359	Trexler Farms	Schnecksville, Lehigh	1	$5.00
350	Floyd H. Sandt	Easton, Northampton	2	4.00
357	Treesdale Farms	Mars, Allegheny	3	3.00
353	Norman Schreiner	Manheim, Lancaster	4	2.00
358	Enos H. Hess	Grantham, Cumberland	5	1.00

Class 106..Crystallized Extracted Honey in Pails, or paper containers.

Entry No.	Name	Address County	Place	Am't
404	Roy K. Howell	Saylorsburg, Monroe	1	$5.00
402	Harry E. Jones	Shinglehouse, Potter	2	4.00
401	H. M. Snavely	Carlisle, Cumberland	3	3.00
400	Floyd H. Sandt	Easton, Northampton	4	2.00
405	Treesdale Farms	Mars, Allegheny	5	1.00

Class 107..Creamed Extracted Honey in glass

Entry No.	Name	Address County	Place	Am't
457	Trexler Farms	Schnecksville, Lehigh	1	$5.00
450	Floyd H. Sandt	Easton, Northampton	2	4.00
453	A. T. Keil	Mars, Allegheny	3	3.00
451	H. M. Snavely	Carlisle, Cumberland	4	2.00
456	Treesdale Farms	Mars, Allegheny	5	1.00

Class 108..Beeswax

Entry No.	Name	Address County	Place	Am't
478	Le Roy Spayd	Myerstown, Lebanon	1	$5.00
492	John Renney	Emaus, Lehigh	2	4.00
487	Trexler Farms	Schnecksville, Lehigh	3	3.00
484	D. C. Gillham	Schuylkill Haven, Schuylkill	4	2.00
489	Gillan Bros.	St. Thomas, Franklin	5	1.00

Class 109..Individual Collective Exhibits.

Entry No.	Name	Address County	Place	Am't
504	Floyd H. Sandt	Easton, Northampton	1	$15.00
505	Roy K. Howell	Saylorsburg, Monroe	2	10.00
501	Trexler Farms	Schnecksville, Lehigh	3	5.00
500	D. C. Gilham	Schuylkill Haven, Schuylkill	4	2.00
502	Treesdale Farms	Mars, Allegheny	5	1.00

Class 110..Honey Vinegar

Entry No.	Name	Address	County	Place	Am't
513	Treesdale Farms	Mars,	Allegheny	1	$1.25
512	D. C. Gilham	Schuylkill Haven,	Schuylkill	2	.75
511	Daniel A. Brubaker	Ephrata,	Lancaster	4	Ribbon
510	H. N. Hainley	Ephrata,	Lancaster	5	Ribbon

Class 111..County or Association Collective Exhibits

Northampton Division of Lehigh Valley Beekeepers Ass'n	% H. W. Dennis, Sec., 1015 Maple St. Allentown, Pa.	Northampton	1	$30.00
Lancaster County Beekeepers Ass'n	% B. L. Burkholder, Sec., Leacock	Lancaster	2	20.00
Lehigh County Div. of Lehigh Valley Beekeepers Ass'n	% Grace L. Dennis, Sec., Allentown	Lehigh	3	10.00
Cumberland Co. Beekeepers Ass'n	% Enos Hess, Sec., Grantham	Cumberland	4	5.00
Luzerne Co. Beekeepers Ass'n	% Leonard Good, Sec., Mt. Top	Luzerne	5	Ribbon

Class 112..Light Comb Honey.

Raymond Connelly, Jr.	Carlisle,	Cumberland	1	$5.00
Pearl Snavely	Carlisle,	Cumberland	2	4.00
Jean Zeigler	Endeavor,	Forest	3	3.00
Miles Hill	Kutztown,	Berks	4	2.00
Boak Roth	Carlisle,	Cumberland	5	1.00

Class 113..Dark Comb Honey.

John Zeigler	Endeavor,	Forest	1	$5.00
Russell Cochran	Gilfoyle,	Forest	2	4.00
Robert McNaughton	Millerstown,	Perry	3	3.00
Hannah Dawson	Saxonbury,	Butler	4	2.00
Florence McNaughton	Millerstown,	Perry	5	1.00

Class 114..White Extracted Honey.

Miles Hill	Kutztown,	Berks	1	$5.00
Raymond Connelly, Jr.	Carlisle,	Cumberland	2	4.00
W. D. Thorne	Butler,	Butler	3	3.00
Frank Faulkner, Jr.	Tionesta,	Forest	4	2.00
William Lippert	Carlisle,	Cumberland	5	1.00

Class 115..Extra Light Amber Extracted Honey.

Jonathan Rumberger	Millerstown,	Perry	1	$5.00
Pearl McNaughton	Millerstown,	Perry	3	3.00
John Long	Cooksburg,	Forest	4	2.00
Earl Horting, Jr.	Newport,	Perry	5	1.00

Class 116..Light Amber Extracted Honey

Entry No. Name	Address	County	Place	Am't
Florence McNaughton	Millerstown,	Perry	1	$5.00
Raymond Horting	Newport,	Perry	2	4.00
Robert Kreiner	Nauvo,	Tioga	3	3.00
Louise Wick	Clarington,	Forest	4	2.00
Edward Patterson	Millerstown,	Perry	5	1.00

Class 117..Amber Extracted Honey.

Jean Zeigler	Endeavor,	Forest	1	$5.00
Ralph Shearer	Sarver,	Butler	2	4.00
Russell Cochran	Gilfoyle,	Forest	3	3.00
Earl Horting	Millerstown,	Perry	4	2.00
Howard Wheller	Hubbard, Ohio,	Mercer	5	1.00

Class 118..Dark Extracted Honey.

Raymond Butters	Nauvo,	Tioga	1	$5.00
John Long	Cooksburg,	Forest	2	4.00
Romayn Heyler	Nauvo,	Tioga	3	3.00
Russell Cochran	Gilfoyle,	Forest	4	2.00
Ralph Miller	Nauvo,	Tioga	5	1.00

Class 119..Light Comb Honey.

Wayne Redinger	Oley,	Berks	1	$4.00
Wilbur Stryer	Danville,	Northumberland	2	3.00
Robert Sealover	Dillsburg,	York	3	2.00
Robert Flinchbaugh	Dallastown,	York	4	1.00
Ralph Gable	Dallastown,	York	5	1.00

Class 120..Dark Comb Honey.

Wayne Redinger	Oley,	Berks	1	$4.00
Wilbur Stryer	Danville,	Northumberland	2	3.00
Harold Elliott	Turbotville,	Northumberland	3	2.00
Theodore Apker	Trout Run,	Lycoming	4	1.00
Vinette Alderson	LeRaysville,	Bradford	5	1.00

Class 121........................ ....White Extracted Honey.

Class 122..Extra Light Amber Extracted Honey.

Merle Munger	North East,	Erie	1	$5.00
Robert Leiby	Montoursville,	Lycoming	2	4.00

Class 123..Light Amber Extracted Honey.

Armour Keller	Unionville,	Chester	1	$5.00
Paul B. Artman	Hellam,	York	2	4.00
Ralph Gable	Dallastown,	York	3	3.00
John E. King	York,	York	4	2.00
Robert Flinchbaugh	Dallastown,	York	5	1.00

Class 124..Amber Extracted Honey.

Entry No.	Name	Address	County	Place	Am't
	Paul B. Artman	Hellam,	York	1	$5.00
	Robert Flinchbaugh	Dallastown,	York	2	4.00
	John C. King	York,	York	3	3.00
	Ralph Gable	Dallastown,	York	4	2.00

Class 125..Dark Extracted Honey.

	Joseph Delisi	Salina,	Westmoreland	1	$5.00
	Dalton Walker	Somerset,	Somerset	2	4.00
	Hugh May	Salina,	Westmoreland	3	3.00
	David Powell	Sipesville,	Somerset	5	1.00

Class 126..Sweepstakes Comb Honey.

	LeRoy Spayd	Myerstown,	Lebanon	1	Ribbon

Class 127..Sweepstakes Extracted Honey.

	Lukas Bros.	North East,	Erie	1	Ribbon

Class 128..Sweepstakes Crystallized Honey.

	Trexler Farms	Schnecksville,	Lehigh	1	Ribbon

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The following paper was left over from the meetings of last winter:

NECTAR SECRETION

By W. J. Nolan, Apiculturist
Bureau of Entomology and Plant Quarantine
United States Department of Agriculture

Nectar is a sugary liquid secreted by special plant tissues known as nectaries. It is to be distinguished from honeydew, another sweetish liquid gathered by the honeybee. Honeydew is of various origins, but that most often gathered in this country by honeybees is an excretion from aphids or plantlice.

Nectaries are located most commonly in the flower itself, but may also occur in other locations, such as in the regions where leaf buds are being formed, on bracts, between leaf and stem, and on stipules. Nectaries located elsewhere than on the flowers are called extra floral nectaries. Some plants, cotton being one example, possess both floral and extra floral nectaries. The most important source of nectar for beekeepers in this cuntry, however, is the floral nectary.

There are two views as to why nectar is produced. According to one view it is produced to attract insects so that pollination may be accomplished. The other view is that the sweet is prepared for the plant itself, either for storage in the seed or to be used by the developing plant tissues.

Regardless of why nectar is secreted, it is evident that there must be certain local or atmospheric conditions which determine whether or not a plant is of importance to the beekeeper as a nectar producer in any given locality, because it may yield nectar abundantly in one section of the country but not in another. For example, alfalfa, a good nectar producer west of the Mississippi, is of little importance as a nectar producer when grown east of the Mississippi. Buckwheat, as a major honey plant, is limited to the territory roughly centering around Lakes Erie and Ontario. White clover, which grows along the Mississippi from the Gulf to our northern boundary, as well as elsewhere, does not rank as an important honey plant wherever it is found.

Plants do not even secrete nectar all the time they are in bloom, nor in the same quantity from day to day or from hour to hour, nor do they maintain the same sugar concentration throughout the day. Clover, for example, may be in bloom 10 days before secreting nectar. The buckwheat blossom lasts only one forenoon. The sugar concentration of the plum blossom has been found by Vansell to be as low as 6.2 percent early in the forenoon but to reach 25.8 percent early in the afternoon.

Among the natural factors that influence nectar secretion are temperature, soil, latitude, altitude, humidity, sunshine, rainfall, amount of snow, and barometric pressure. These factors affect nectar production in various ways. They may cause a change in the sugar concentration of the resulting nectar, a change in the chemical composition, a change in the quantity secreted, or even a change in its color.

The subject of nectar and nectar production is of practical interest to the beekeeper, to the orchardist, and to any other plant grower who depends upon the honeybee for the pollination of his plants, because there is a definite relationship between the visits of the bee to the plant for nectar and the sugar concentration of that nectar. Thus, it has been found, through work by Von Frisch in Germany, that bees do not take syrup freely that has a sugar concentration of less than 33 percent and never refuse it when the sugar concentration is 66 percent. Quite in line with these experiments, Park has found that Iowa honey plants have a sugar concentration ranging from 30 to 65 percent during the hours when bees are flying freely.

In recent work Vansell found that bees actually neglect blossoms with nectar having a sugar concentration of less than 30 percent in favor of others bearing nectar with a higher concentration. For example, whenever the nectar of any fruit blossom, such as that from apple which has a sugar concentration greater than 30 percent, became available, the bees promptly turned their efforts to gathering nectar from these blossoms and deserted pear and apricot blossoms whose nectar has a sugar concentration less than 30 percent. In work in Oregon, Vansell found certain native honey plants to be such dangerous competitors of certain fruit bloom as to threaten seriously the effective pollination of the latter by bees brought in for pollination purposes.

Even the fact that the sugar concentration of nectar from any given plant may vary from hour to hour has its effect on the daily nectar-gathering program of the bee. Thus it was found by Vansell that while the bees worked the blossoms of certain fruits early in the morning, later each day they deserted these plants for blossoms that proved to have a higher sugar concentration at that time of day. To give one specific example, it was noticed that Bartlett pear blossoms in the Sierra foothills were visited eagerly for pollen up to 10:00 a. m. and might then be practically abandoned for other blossoms whose nectar had attained a sugar concentration high enough by that hour to be attractive to the bees. Vansell found the maximum daily sugar concentration of pear nectar during one experiment to be only 17 percent.

In view of the fact that there is a wide variation the amount of nectar secreted by various plants and that the range of sugar concentration in many is below the range attractive to honeybees, the question arises as to whether anything can be done to increase both the amount of nectar and its sugar concentration. As a matter of fact, work by the Bose Institution in India indicates that perhaps the amount of nectar can be increased by some simple method like adding certain chemicals to the soil as food for the nectar plant. It may also be that plant breeders can select or develop varieties of fruit producing nectar in larger quantity and with a sugar concentration within the range preferred by the honeybee.

A WORD ABOUT INSPECTION

By William Glebe

The inspection work in the state this year has gone very nicely. Of course due to the fact that only ten men were in the field we were unable to cover as many counties as we had hoped to cover. Many counties in the state have not been inspected since 1932 and due to long periods of rain during the season, the work was at times, greatly handicapped but in spite of this a great number of apiaries have been inspected.

The full report of the year's work will be compiled and given at the state winter meeting in Harrisburg at which time I hope to be able to speak on some phases of the work which I feel should be very helpful to the beekeepers as a whole.

HONEY AS A FOOD

Submitted by A. C. Trainer

There is an interesting article in the April issue of the "American" Magazine, by Captain John D. Craig, entitled "How We'll Get The Lusitanias Gold," referring to the diet of the divers; I quote, from page 92.

"All of us are in the pink of condition. We have trained for months working off every ounce of fat. Those of us who do the diving, like myself, have given up tobacco, alcohol, and mixed foods. That is most important. Working at great depths in artificial atmosphere, our bodies must be perfect metabolic machines. Oxygen has burned our blood clean and the slightest impurity or unbalance traveling through our systems with great rapidity causes disagreeable reactions."

"For weeks now we shall have nothing for breakfast but a glass of orange juice and a (pound and one-half of honey) in the comb, which we chew thoroughly, spitting out the wax. This honey provides a carbon background for the oxygen to burn upon and prevents its burning our tissues."

"When we come up from the sea we are given nothing to eat except a half tumbler of strained honey, lemon juice and rain water. We carry crocks of rain water in the ship refrigerators, because it is not only pure, but contains a high degree of oxygen. When we emerge from the water our body temperatures have fallen from 98 degrees normal, to 85 degrees, although we do not feel the cold. The rain water, honey mixture warms us up and then after a massage, we go to bed. After a brief rest we eat, but we must stick to one thing at a time; proteins, or carbohydrates, not both. We immediately feel it if we take the combination and we suffer nausea or weakness. Our physical discipline is most severe."

BLAIR COUNTY NOTES

By Frederick Hahman

The season of 1937 viewed from the beekeeper's standpoint, will go into history as one of the lean honey years in Blair County.

Clovers yielded sparingly and slowly, resulting in section honey that was not capped white as should be, altho the honey itself was of light color.

Our markets are showing comb honey that is a real disgrace to our industry. It it bad enough, that our fine honey is not capped snowy white, but to offer the public dark and poor tasting fall honey is inexcusable, such product is unfit for table use. Much of this honey is in sections daubed over with propolis, also with plenty of propolis on the capped honey, some is in sections but partly sealed, placed in the overdecorated cellophane wrappers and bags and window cartons put out by our supply houses to hide the appearance of the product that is inside.

Good honey should only be wrapped in plain cellophane. The honey itself is the real appeal, not the overdecorated wrappers.

Sections of that poor product are offered at prices from 10 to 15 cents retail. Persons who never bought honey are tempted by the low price and they never again buy any honey.

The past summer was not a dry one here, in fact we had plenty of rain. The rains did us one good turn, the aphides which produce the honeydew were not in evidence, they "got wet feet."

Caring for the bees going into winter quarters is now in order. The main requisite is good food.

The wild asters are now in bloom, during a damp autumn, such as we are having, aster honey is not so good as winter food, it contains considerable pollen, washed into the nectaries of the blossoms by the rain, it is apt to cause dysentary during the winter. In a dry fall, aster honey is prime wintering store, because it contains a smaller amount of pollen.

This is one of those years, when a ten pound pail of thick sugar syrup, fed warm is a most welcome assurance of welfare for successful wintering. However, better still, is to bring back to the comb honey colonies their food chambers with their good honey, which the weaker colonies took care of during the summer.

THE CANANDOHOTA PICNIC

By E. E. Root

At 11 o'clock we had a very good discussion on the management of bees and the production of honey. This was followed by a very good discussion on American foulbrood which lasted till 12:15 p. m.

From 12:15 to 1:10 p. m. we had a basket picnic and from 1:15 p. m. to 2:00 p. m. a short talk from the different county agents and association members.

Dr. Phillips gave a very good talk on the management of bees in the different parts of the United States and European countries. He gave in addition a very instructive talk on diseases of bees and their control. Dr. Phillips spoke one hour, then we heard from our State Apiarist, Mr. Glebe. He talked about the work of the State Inspector and how he would like to see every county have an association.

Then we heard a brief talk by the inspector for this district, Mr. Frank Lillie, of Corry. Mr. Deyell, Editor of Gleanings, spoke on the marketing of honey, the management of out apiaries, and the best type of equipment to use in certain localities. Then at 4:30 p. m. we had pictures taken of groups, after which we had a few games. At 4:45 p.

m. it began to rain so we called off until next year. The attendance was about 150 beekeepers or members of their families.

CENTRE COUNTY NOTES

By A. R. Houser

The Centre County Beekeepers held their field day on August 12, 1937 at the home of Mr. and Mrs. Samuel A. Homan in Ferguson Township. The Homans have a big yard which they turned over to the beekeepers for the day.

At noon the ladies all went together and set the tables loaded with good things to eat. Forty-seven people were present to take advantage of the dinner. After dinner Max Miller gave a demonstration on preparing and marketing comb honey. A. R. Houser gave a brief history of beekeeping from 2600 B. C. to the present day. He also discussed the cost of a hive of bees and the cost of producing a pound of comb honey. Mr. Hahman, President of the Blair County Beekeepers Association explained the manipulation of supers to get the best results for comb honey. Mary Ellen Homan treated all the kiddies to a ride on the pony. The Homans gave the beekeepers a standing invitation to their home as a place for the county field day.

LUZERNE COUNTY NOTES

By Leonard E. Good

The report I hear from other beekeepers in the county concerning the inspection work is favorable. By co-operating and helping we will be able to get this county cleaned up.

This has been an unusual summer insofar as the bees and honey production is concerned. There was very little nectar up until the middle of August. Some beekeepers fed their colonies to keep them up to full strength for the fall flow. The goldenrod started a little earlier this year than usual. The dark honey will be of better quality than the light.

The beekeepers who attended the meeting on August 19, 1937 all enjoyed themselves. Our group met with the Lackawanna County beekeepers and visited Mr. Roy Howell's and Mr. William Glebe's establishments.

NORTHAMPTON COUNTY NOTES

By Floyd H. Sandt (per J. G. Sandt)

We are getting only a half crop of honey here. There is very little fall honey coming in from goldenrod and wild aster. The crop as a whole is not very light in color.

Comb honey is not very plentiful. In spite of its scarcity I do not believe the price will advance much, nor do I expect the price of extracted honey to advance.

The bees are not in any too good shape for wintering. Many of them will go into the winter with very little stores. I know of one beekeeper who extracted all of his honey, and then the honey flow shut off, so he fed the honey back to the bees in order to keep them from starving.

We are getting $3.60 a case for comb honey, and .09 and .10 cents a pound for strained honey.

REVIEW OF THE SEASON

By Edwin J. Anderson

This season has been considerably below par and is the opposite of last year. About the only honey flow that was above average was the locust. Even the buckwheat and fall honey flows were below normal. Cambria, Mercer, Bedford and nearby counties all report very poor crops of buckwheat honey. The fall flow helped a great deal to fill empty hives and reduce the amount of feed that will have to be given the bees this fall. The quality of the winter food is again such that feeding to improve the quality is advisable. Sugar syrup, buckwheat or clover honey all make good winter food, providing the honey comes from disease-free yards. All colonies should be checked both this fall and early next spring to see that they have the necessary amount of winter supplies.

The markets of Pennsylvania will undoubtedly suffer for lack of an ample supply of honey, but there is little that can be done now. If honey were carried over from a bumper crop year it would help both seasons, but here again little can be done since few of us can foresee the good and bad years. The fluctuating production from season to season is one of the big problems of all Agriculture. When the beekeeper, for instance, gets a large crop he naturally works hard to find new customers. Then a season of low production comes along and a good many of the new customers must be dropped for lack of honey. Were it not for the fluctuating supply a steady advertising program could be developed which would gradually increase the demand for honey.

A season of this kind has one advantage—it causes old supplies of honey to be marketed so that there is little or no carry-over for the next year. Unless honey is handled properly and the yeast destroyed by heat many batches of honey from last year will have become sour by this time and be no longer fit for market.

This season has been one when there were many field days well attended by the beekeepers. The last and largest of these gatherings will be the one at Washington, D. C. It will be over by the time this publication is received by the beekeepers and we will again be looking towards the Harrisburg meetings.

MONTGOMERY COUNTY NOTES

By Charles F. Hosier

The fall meeting of the Montgomery County Beekeepers' Association was held at the John E. Reigner apiary, four miles from Pottstown in Chester County; up in the woods in an ideal location, fully cleared of young growth and underbrush. Over 35 members and friends were present, some from our neighboring county, Berks, to greet State Apiculturist, Wm. M. Glebe, of Harrisburg, Penna., who substituted for Professor E. J. Anderson who had undergone an operation in a Philadelphia hospital and could not attend our meeting as promised.

In the course of Mr. Glebe's talk, we learned that foul brood among the bees had been known for 400 years and that beekeepers had been fighting it for that length of time. While many remedies have been tried at great expense, so far none have proved of permanent value and the only sure cure is to burn the bees and diseased combs. This should be done by digging a hole 2 feet deep and depositing the combs in it, setting fire to them. Previously, the bees should have been killed in the hive by use of gas.

Mr. Glebe also related an amusing experience with a farmer-beekeeper up-state who had refused to allow an inspector to examine his bees, threatening to shoot him, and it was necessary for Mr. Glebe in his capacity of State Apiculturist to visit him and explain that the law was on the inspector's side. When Mr. Glebe left, all was serene, the bees had been inspected and the farmer convinced of the necessity for inspection for his own protection.

At the last session of the Legislature, the small amount of $6000.00 was appropriated for bee inspection work, which was entirely inadequate for the purpose, and Mr. Glebe suggested that all beekeepers join with the fruit-growers' association and solicit appropriations from county commissioners so that the work might be carried on and all cases of foul brood followed up in the effort to eradicate this dread disease. The fruit-growers are deeply interested because of their need of the bees in pollination of orchards.

JOINT FIELD DAY OF CUMBERLAND AND ADAMS COUNTY BEEKEEPERS

The beekeepers association of Cumberland County arranged a field day on August 31 in conjunction with the Adams County Beekeepers. The apiary of Mr. Sachs, near Biglerville, was first visited.

Mr. Sachs keeps bees to pollinate his own orchards, as well as other fruit growers of Adams County. In some instances he places the colonies in orchards and then relocates them for the main honey flow to sections in which the menace of spraying orchards does not affect his colonies. After inspecting an out apiary the group went to the home of Mr. Sachs where he has an extracting plant which is very much up-to-date. He recently installed an insulated room in which to store his honey to be heated by electricity so as to maintain a temperature to prevent granulation of the honey. This is somewhat of an experiment and he stated that if it would not work, he would convert the room into a cold storage plant for apples.

The beekeepers were asked to bring a basket lunch, which most of them did, but with the supplies furnished by Mr. Sachs and his family the basket lunch would not have been necessary, as he supplied sandwiches, orange juice, chocolate milk and ice cream, to the extent that some of it had to be taken back by the one who supplied the same for the occasion.

A resolution or regret for the absence of Mr. Anderson, which was occasioned by his illness, was passed in addition with the hope that he may soon recover and be able to continue his worthwhile services to the bee industry of the state.

BRADFORD COUNTY NOTES

By Harry W. Beaver

The summer picnic of the Pennsylvania Beekeepers Association was held on the Troy Fair Grounds. About 65 were in attendance—a representative attendance from over the state. About 4,000 colonies were represented.

Mr. Wm. Glebe, our chief apiary inspector, was present and talked on the outlook of the bee industry in Pennsylvania. After a lively discussion, which lasted an hour or more, the crowd adjourned to a smooth place on the grounds and engaged in competitive games with great hilarity. No, that 14-gallon keg did not contain methyglin—only honey lemonade furnished by the host and hostess, Harry W. Beaver, and Mrs. Beaver..

Question, is honey lemonade good for picnickers? Well, they drank it all, which is saying it wasn't so bad. After the program, some of those interested in Caucasians visited the Caucasian yard, others looked things over at our home, where we had a central plant and storage started. It is not yet under roof, as we have been busy getting the buckwheat honey extracted. We have a normal crop. We also had a thousand bushels of apples to pick, pack and store. We expect to begin packing bees as soon as we get picked up after finishing extracting. Bees are going into winter in fine shape as to stores and bees of which they have plenty.

Local honey sales have been good. If every town and community used as much honey as Troy, there would be no glut in the honey market.

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Program for the Farm Show, Harrisburg, Wednesday and Thursday, January 19 and 20

The program this winter contains the names of two out of state speakers: Dr. E. F. Phillips, of Cornell University, and Dr. W. E. Dunham, of Columbus, Ohio. Both of these men are outstanding speakers and promise to give us valuable information. There should be a large attendance.

PENNSYLVANIA STATE BEEKEEPERS' ASSOCIATION, ROOM D, FARM SHOW BUILDING, HARRISBURG, PA.

Wednesday Morning at 9:30

Meeting Called to Order by the President—H. M. Snavely, Carlisle, Pa.
Invocation
Address of Welcome—The Honorable J. Hansell French, Secretary of Agriculture
A Sideliners Viewpoint—Thomas A. Berkey, Easton, Pa.
Discussion
Report of Secretary-Treasurer—Charles S. Hess, Rothsville, Pa.

Wednesday Afternoon at 1:30

Election of Officers
President's Address—H. M. Snavely
Beekeeping with Fruitgrowing—J. W. Lucabaugh, Hanover, Pa.
Report of Apiary Inspection—W. M. Glebe
Bee Management to Reduce the Spread of American Foulbrood—W. E. Dunham, Extension Apiarist, Ohio State University.
Taking the Uncertainties from Beekeeping—Dr. E. F. Phillips, Cornell University.
Business Session

Wednesday Evening at 6:30
Beekeepers' Banquet
Jackson's Domestic Science Kitchen
206 Walnut Street, Harrisburg

Beekeeping as a World Enterprise—Dr. E. F. Phillips

Honey Bees for Red Clover Pollination—Dr. W. E. Dunham

The Introduction and Use of Package Bees (One Reel Motion Pictures) E. J. Anderson, State College, Pa.

Price of banquet—75 cents.

Thursday Morning at 9:30

Equipment for Heating and Bottling Honey—Roy Howell, Saylorsburg, Pa.

Recent Progress in the Handling of Honey—Dr. E. F. Phillips

Seasonal Variations—E. J. Anderson

Comb Honey Production—Dr. W. E. Dunham

Representatives of Various Supply Companies

Thursday Afternoon at 1:30

Does It Pay to Keep Bees in Pennsylvana?—A. T. Keil, Mars, Pa.

Optional Subject—Harry Beaver, Troy, Pa.

Roadside Marketing—Walter Doud, Mansfield, Pa.

Echoes from the Field—Representatives of County Organizations and Visitors.

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ORCHARD BEEKEEPING

By George Rea, Cornell University

There is no longer doubt as to the efficiency of honeybees as cross pollinating agents for fruit bloom and in fact their absolute necessity has been established for many orchards. In many fruit growing localities the wild insect population is entirely inadequate to properly work the great number of fruit blossoms in the short period of time in which this is necessary. Apparently there has been a marked decrease in the wild insect population in many sections in recent years, because of clean cultivation of the soil and cleaning up of the wood lots where the solitary bees and other useful insects make their nests. Since it is not possible to propagate the wild insects and have them in abundance in the orchards at the right time, we must turn our attention to the honeybee which has a highh commercial value in the honey crops which it harvests and which can be reared in as large numbers as desired and placed in the orchards when needed.

It is not the purpose of this article to attempt to induce all fruit growers to keep bees. This would be foolish propaganda because there are so many factors involved that the average fruit grower would only lose his investment if he should attempt to keep bees. The bees must have certain attention at the right time and if this attention is not given at that time failure is likely to result. Since the business of the fruit grower is to care for his orchard and the fruit crops, a comparatively minor detail like working over a few colonies of bees when there are big things to be done is likely to be neglected. Some persons are highly susceptible to bee sting poison and many are so much afraid of bees that they cannot work with them. Such persons should not think of keeping bees.

Most fruit growers prefer to rent colonies of bees from reliable beekeepers who supply bees for pollination purposes as part of their regular beekeeping business, or to purchase package bees from the South each spring. These phases of the beekeeping industry are growing and for a very large portion of the fruit growers will be the continuous sources of colonies of bees for thier orchards.

However, there are some fruit growers who derive a lot of pleasure out of keeping their own bees and prefer to do so rather than depend on someone to supply the bees when needed. Orchard beekeeping has some advantages and some decided disadvantages. The chief advantages are that the bees are there when needed and at no greater cost than rented bees, some honey is harvested for use by the family and sometimes for sale, and the beekeeper has a delightful avocation. The disadvantages are that it is another detail to be looked after when the fruit grower may lose more than is gained if he stops to give the bees attention, bees left in the orchard are often poisoned by spray or dust, they sometimes are objectionable to members of the family or to the workmen and may sting animals if placed near the buildings, and in some seasons in some locations the bees may not gather sufficient honey to keep them over winter, and additional labor and expense is involved in feeding them.

SIMPLE BEEKEEPING METHODS NECESSARY

The necessity for colonies very strong in field bees at fruit bloom time cannot be over-estimated. Since this is the main objective in orchard beekeeping the beekeeping practices of the whole year must focus on this one point. To acquire these maximum colonies, five main factors must be present for a period of at least eight weeks previous to the time of fruit bloom. These factors are a good sized cluster of young bees, a prolific queen, plenty of honey and pollen stores, plenty of room for stores and brood-rearing, and plenty of insulation. These things cannot be supplied at this time but must be provided at the time or previous to the time when the bees are packed up for winter in the previous October. Methods for accomplishing these things are not difficult but are seasonal and would be better taken one step at a time during the summer and fall. The use of the two-story Langstroth hive is urged so that the fullest egg laying capacity of good queen bees may be utilized. It is best to requeen the colonies each year so as to offset heavy losses which may occur from failing queens. In most localities if the beekeeper supplies the queen and plenty of storage room for all of the honey which the bees may gather during the summer, leaves plenty of honey for the bees in the fall, and adequately insulates the hives before freezing weather occurs, the matter of a good cluster of bees and the satisfactory progress of the colony in the spring will normally occur.

SECURING AND USING THE BEES

Fruit growers who wish to rent colonies should contact those who have bees to rent at an early date so that there will be no slip-up when the bees are needed. Weak colonies are useless and normal colonies should have at least six combs of brood and the rest of the combs well covered with bees at fruit bloom time in order to be called a good colony. Experimental work by several workers has proven the comparatively high value of strong colonies over weak colonies in their ability to fly and work on blossoms especially in low temperatures.

Colonies should be moved into the orchard if possible a day or two before the first blossoms open so that they will be present every minute of the possible time when work may be done. This is especially true in sections of the country like Western New York where much of the weather during fruit bloom may be cool and cloudy. In this region it is highly important that the bees be well distributed through the orchard rather than to be located in groups or in one apiary. In many seasons the bees never have weather favorable for flight farther away from the hives than two or three rows of trees during the entire period of fruit bloom. In sections where weather conditions are more favorable it may be possible to have good work done by the bees when they are placed in groups in or around the orchard. It is better to play on the safe side and have the bees well distributed through the orchard than to take chances on a poor set of apples by saving a little labor in distributing the bees. Seasons vary greatly in the amount of cloudy and cool and windy weather and it is best to be prepared for the poorest bee flight conditions. Sunshine and fairly high temperatures are essential to long bee flights.

PACKAGE BEES

Package bees should be ordered from the southern shippers several weeks ahead and they should arrive before fruit blossoms begin to open. It is best, however, not to have them arrive too far ahead of time. On arrival they should be installed in hives and fed according to instructions, or if the packages are designed to be set out in the orchard they should be wrapped to insulate them and fed as instructed. It is best to install package bees immediately on the stands out in the orchard, where they are to remain for the period of fruit bloom at least. When package bees are purchased for making a start in beekeeping the new hives should be made ready sometime ahead and placed on the proper locations so that there may be no delay when the bees arrive. Full sheets of brood comb foundation should be used in all of the frames so as to insure the building of all worker combs which will be straight and easy to manage. It must be remembered that the new swarm of bees has no fully constructed combs nor a stored supply of honey on which to draw for their living and to build new combs. They must depend upon nectar and pollen gathered from the flowers but because of bad weather conditions or because the flowers are not in proper condition to secrete nectar, they may starve unless the beekeeper continues to feed them until they are well established and have a honey supply of their own stored in the combs. Feeding instructions always accompany package bees. For this purpose a syrup of about one part water and one part granulated sugar is used. Three pound packages with queens are usually purchased.

This has been a hard winter on bees, especially if they were not well insulated against the cold. If colonies have died and one is sure that the combs are not infected with American foulbrood, it is an easy matter to restock these hives with package bees. In case the hive contains a lot of dead bees and the combs are moldy, it is best to clean out the dead and scrape the hive generally clean of debris. The new swarm of bees will utilize any partly sour honey that may be in the combs and if there is sufficient honey feeding will not be necessary. Package bees are very useful to unite to weak colonies in order to bring them up to good flight strength at fruit bloom time. This is a good time to replace failing queens or undesirable stock in the bees. Package bees with queens are ordered. On their arrival the queens in the colonies are found and killed. One extra and empty hive-body is on hand for each colony. One comb containing some honey and brood is taken from the colony and placed in one side of the empty hive-body, a single sheet of newspaper is spread over the top of the combs in the hive and the empty hive containing the one comb is placed on top of the newspaper. The caged queen is taken from the package, as the instructions should indicate, and the cage placed on the comb. The package is then placed down into the empty hive and the cover taken off, after which the hive cover is quickly placed over the hive. In a few days pieces of the newspaper will be thrown out of the hive entrance. After this occurs the hive may be opened and the bees concentrated down into the lower hive. In case the colony is strong enough to occupy two hive bodies, the second one should be given at fruit bloom time.

MOVING BEES AND WHERE TO LOCATE THEM

Beekeepers who move bees to the orchards frequently complain that they suffer heavy losses because of queenless colonies and the loss of brood. In some cases this has been so serious as to cause the loss of almost the entire honey crop from these colonies. Not all of the factors which bring about these losses are known but if proper precautions are taken the most of it is preventable. When strong colonies of bees are disturbed for a long period of time, as in moving on a truck for several miles, the activity within the brood-nest sends the temperature soaring and ample room for the expansion of the cluster and ventilation must be provided. No doubt but that much of the brood losses come from overheating. Moving at night or in cool weather is desirable and very often can be done. Even then ample screens should be provided for the tops and the bottoms of the hives. The frames should be fastened up so that they will not bounce and kill many bees and perhaps the queens. In spite of these precautions many colonies are seriously damaged as far as future honey production is concerned.

Moving the colonies a short distance, as from a central location near the buildings to be distributed through the orchard, presents another problem. After moving it is usually found that many of the field bees have returned to the original location where they die, unless a colony is left for them to enter. If two or three weak colonies are left behind to catch the returning field bees from a small apiary no serious loss of field bees will be experienced except that the colonies which were moved will not be strong in field bees for a few days. If bees are moved within their flight range, which may be one or two miles, most of the field bees will return to the original location.

Bees usually should be moved more than two miles when possible. A good way would be to move them away from home a distance of about three miles and leave them there for about two weeks, after which they may be returned and distributed where wanted. Since this is not always convenient, it might be suggested that two fruit growers living three or more miles apart swap bees for the time of fruit bloom. Some beekeepers report satisfactory results by catching the returning field bees in empty hives left on the original stands. After night they are carried out to the colonies in the orchard and united back to them by using newspaper. This is done by removing the cover from the colonies and placing single sheets of newspaper over the frames. The empty hives containing the bees and without bottoms are then placed over the newspapers. After the bees have taken time to cut through the paper they seem to forget their old location.

If at all possible, bees should be located where they will be well protected from prevailing winds and at the same time have the full benefit of the sunshine. Bees in windy locations and especially if they are in the shade will lose a lot of time because it is too cold for them to fly while colonies in the sunshine and protected from wind will be working. This applies to bees temporarily located in the orchard as well as to permanent apiary locations. Rented bees should be removed from the orchard before the petal fall spray is applied, so as to prevent poisoning. Bees kept in the orchard during the entire year frequently collect poison. In some cases this results in the death of the colonies, while in many cases only the field bees are lost and the colonies subsequently build up and become good colonies for the next spring.

George H. Rea
Assistant Professor of Apiculture
Cornell University
Ithaca, N. Y.

Talk given at Harrisburg Meeting January 1937

TREATING BEES FOR AMERICAN FOUL BROOD

A. T. Keil, Mars, Pa.

In giving this talk on treating bees for their worst enemy A. F. B. I do not propose to go into lengthy details of the methods to use, as that has been talked of so much here at our Beekeepers' meetings in Harrisburg, demonstration meetings throughout the State and also published in Bee Journals, but to explain a method that I tried out last summer which is different from any that I have ever seen or heard of.

I do not recommend treating bees that are so far gone that the hive is so contaminated with the disease as to become a serious menace and be liable to spread the disease throughout the apiary. In taking care of the bees on Treesdale Farms, I examine the hives at least every two weeks in the spring, which, I figure is the main time of year for bees to get A. F. B. Very seldom does a hive of bees get more than ten or fifteen cells before I notice it. Colonies of this kind I consider a crime to kill.

Last year when I was out in Ohio where my son, Donald, has about 125 colonies of bees, we found two colonies with a few cells of A. F. B. These hives were withiin about a foot of other hives, and I was afraid of spreading the disease throughout the yard by the shaking method. Since we had equipment for removing bees from honey supers by the carbolic acid method we decided to give it a trial, and went to transferring the bees into new hive about as follows:

We moved the diseased hive back and higher than its original stand. and placed a new hive with full sheets of foundatiion on the old stand, then placed a shallow extracting super with full sheets of foundation on the new stand, shifting it back about three inches and put on the inner cover and top. The old diseased hive that was moved back, the entrance was just about a foot lower than the shifted super, and put a sloping pasteboard for the bees to run up on between the two hives, i. e. it sloped from the entrance of the diseased hive to the old hive top, and the shallow extracting super extending back beyond the new hive. The bees ran up the slope and into the end of the shallow extracting super.

We then took off the inner cover of the diseased hive, naturally using the smoker when needed, having previously dug a large trench in which to burn the frames. We put the inner cover in the trench to burn, as we do not figure it is worth saving. We put on the prepared carbolic acid pad and then started on the second hive in the same manner.

There were three shallow extracting supers on both of these hives which we treated, and by the time we had the second hive lined up we came back to the first hive and the bees were all out of the top super, so we dumped the frames in the trench and started the fire, placing the carbolic acid pad on the hive again, then to the second hive and so on until by the time we had the pad on the brood chamber most bees had gone up into the new hive and it was an easy matter to chase the rest of the bees out of the brood chamber with the acid pad. The brood frames and the pasteboard runway were burned, the shallow extracting super was pushed front in proper place and the empty hives and supers were scorched inside and out with a blow torch.

Anyone who has shook the bees off of frames onto paper when treating by the old method of shaking or brushing, know what a messy, hot and stingy job it is, and the amount of bees flying in the air and crawling into other hives, etc. With this method practically no bees were flying The field bees coming in went into the new hive, what few flew from the old hive entrance soon went into the new hive entrance.

It has always been a liable source of spreading the disease when handling the smoker throughout the whole operation of treating, caused by getting honey or spores on the smoker and thus later into other hives. With this method all the smoker is used is to start the treating, and which if handled right only the hive tool comes in direct contact with contaminated honey, wax, etc. The smoker is used when taking off the inner cover and thereafter is not needed. When through using the carbolic acid pads they should be wrapped with paper and only used for this purpose.

In checking back on these treated hives I could not see as the queen was any the worse for this treatment, of course this would have been a very good time to requeen.

O course it is understood that after treatment the hive tool should be well heated to kill any spores and remove honey, etc.

Regarding cleansing of the hands to remove honey, etc., I have been washing them with gasoline, as I find bees will not go near gasoline, and it removes propolis, and if there should be any honey or wax left on the hands bees will not work it and as soon as I get where I could, would immediately scrub my hands with a strong soap.

With this method it is hard for robber bees to get hold of honey from the old hive.

In closing might add that I never use explosive or poisonous gases to kill bees that are to be burned up, as I find by closing the entrance and pouring gasoline in the opening of the inner cover, then covering for a short time it quickly kills all bees. The gasoline then helps burn up the brood, etc., while naturally gasoline is explosive to a certain extent, yet not anything like what some of the other gases are.

BEES MIGHTIER THAN MAN

By Elmer F. Reustle, Philadelphia

Several weeks ago the Associated Press was in touch with me and stated they had just received a report by wire from Asia that Japan was using bees in place of homing or carrier pigeons to transport secret messages from their spies across the line. They wanted to know the feasibility of this and asked a number of questions as to how this might be so. The report and interview, I understand, was released over the Associated Press wires.

I have my doubts that any of us as beekeepers had ever given any thought that our pets would ever be used in such an important capacity as a necessary part in time of war. Aside from the few main uses that we are so familiar with that have been helpful to man, the gathering of nectar and pollination.

Let us give consideration to their actual value in time of war by visualizing our knowledge as to how it may be applied. How many of us so countless numbers of times have stood in our apiary and watched and studied the bees coming in from the fields, have given more serious thought as to what other use they may be put than their carrying of nectar, water or pollin, while in flight, and their habits. Or stood in the fields, woods, or orchards and watched them going from flower to flower in their daily work and then head for home. No doubt you can recall the many pleasant experiences you have had in tracing the bees back to their hives. Or tracing bees to trees and then possibly removing the bees and honey............Then to remember our use of bee traps, queen mailing cages, etc.

Now let us give thought to how they would be put to use in time of war and apply our knowledge as beekeepers in fulfilling the demands of the War Lords by using our experience to an advantage such as this.

We recognize the advantages of their use in this manner as against the carrier pigeon in the ease in getting a number of them to be used as message carriers across the enemy lines, into enemy territory in a very much more compact space. A small container such as a toothbrush holder, fountain pen or queen mailing cage can carry a sufficient number of bees to last for several days. An entire message can be sent on one bee, or parts of a message on one or a number of bees either through marks of idientification, every mark or color having a meaning.

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Or a message written on a very small and thin piece of paper and attached to the bees legs as is pollen. We know the large amount of weight a bee can carry in comparison to its size, and for a comparative far distance. The message, of course, would have to be microscopic in size. This, too, we acknowledge, is possible because we know that an entire message can be inscribed on the head of a pin.

As to size, their not being much if any bigger than a horsefly, they could not be seen at any great distance or captured in flight nor shot as could a pigeon and would cross the line unmolested.

Just picture this. A spy receives information or a message of great importance which is immediately transcribed, for the safest of precautions, into code; attached to the bee with either marks or on paper then immediately released. The little carrier of spy messages of the utmost importance heads for home at once. In practically a few moments time crosses the enemy lines and is headed straight for the hive. Of course the entrance would be reduced with a possible fancy contraption (for which we as beekeepers are all famous for inventing) connected so that the bee is caught before it enters the hive so that the message can be immediately removed without any loss of time, and the proper steps taken according to the information the message contains.

There are, however, a few limitations to their being used continually in all sorts of weather.

It appears our innocent little bees are being utilized to convey messages of utmost importance that would cause the slaughtering and maiming of many thousands of persons. This all important message to cause the winning of a battle or even the entire war and change the destiny of millions of people or a nation, and the effect may be felt over the entire world.

REVIEW OF THE SEASON

By Edwin J. Anderson

The markets are continuing to remain good and even though there is the expected decline in sales for the holidays, the decline is not noticeable as it is some years. The prices are about the same with small increases in some sections of the state. The increases are more noticeable in the northern part of the state.

There is an abundance of moisture and snow to protect the clovers over most of the state. Conditions are favorable now for a good clover honey flow next season.

Many colonies of bees are short of supplies in the southern part of the state which would indicate a heavy loss from starvation. Early spring feeding will undoubtedly be necessary in many localities.

Southern shippers indicate that orders are coming in early for package bees. Because of the scarcity of package bees each spring, it is advisable to order packages early. Estimated orders can be sent now and a definite number given later in the spring a little before the time the shipment is made.

I should like to take this opportunity to thank all those who wrote me or sent me flowers during the time of my stay in the hospital at Philadelphia.

RECORDS FOR PRODUCTION AND WINTER LOSSES

By Edwin J. Anderson

A series of records are taken each year to show production of honey in the state and to find the winter losses.

Last winter the losses were extremely small as compared with the previous winter. The records show a loss of 8.6 per cent for the better beekeepers compared to an estimated loss of 10 per cent for the state as a whole. The records showed a loss of 9.7 per cent for colonies not packed as compared to 7 per cent for those packed. This shows a double saving. A small saving in colonies and a saving of honey since packed colonies use less food than do those not packed.

The above figures are interesting when compared with those of the winter of 1935-36 when there was a loss of 42 per cent for the state as a whole, with 45 per cent for colonies not packed and 15 per cent loss for colonies packed. The saving in colonies packed during a hard winter is sizable per cent and shows the value of packing over a period of years.

The production for package bees was not so good last summer. They showed an average production of 30 pounds of honey per package. This is small as compared to the average during the summer of 1936 when they averaged 119 pounds per colony. The extreme difference is due partly to the poor season and largely to the early honey flow this spring as compared to the late flow of last year.

The results obtained in the northern half of the state were fairly good for packages since they had a late flow from buckwheat and fall flowers. Some colonies developed from packages failed to produce any surplus.

A summary of the results is as follows:

No. colonies (packages)	417
No. apiaries	27
Production	12,645 pounds
Production per colony	30 pounds

CUMBERLAND COUNTY NOTES

By H. M. Snavely

Weather conditions this fall have been mild until December when a rather severe cold spell came, and unless bees have a sufficient amount of food they will suffer. The past season was an unusual one. The crop was light all over the county. In some sections bees suffered a shortage of food as early as October. There was some report of starvation, and some beekeepers have resorted to feeding as an immediate relief In some sections colonies went into winter heavy with stores. The clover left with the bees at the end of the flow was practically eaten up during the summer and there was no fall flow worth mentioning.

There is a shortage of honey even now, especially section comb honey. The retail price remains about the same, while the bulk price has advanced slightly. The market is moving on more steady than earlier in the fall. The honey throughout the county is slightly darker this season than last. The crop was approximately fifty per cent of what it was last year. Beekeepers are looking forward to a better season next year, or at least hope for a better one, already a number have ordered package bees for spring delivery.

The County Association called a meeting of the beekeepers December 10. Plans were made for exhibiting at the Farm Show, and also a meeting was planned to be held March 3 in the County Extension Office.

We are looking forward to big meeting in Harrisburg January 19 and 20. While the bees are snugly clustered why not run over to Harrisburg and help to put this meeting over big.

OFFICERS—PENNA. STATE BEEKEEPERS ASSOCIATION

A. T. Keil, Mars, Penna.

To the best of my knowledge the following is a correct list of the

Officers of our Association from the time it was founded at Williamsport, Pa., in 1904, and I want to thank all who helped me get this together as much as it is, especially Mr. H. K. Beard, Wm. Wakeman and to Prof. A. F. Satterthwait, Associate Entomologist, Urbana, Illinois.

In getting this information together it was necessary to bear in mind that the President, who conducted the meeting in, say 1936, actually was the president for 1935, and conducting the meeting in 1936 was the finish of his duties as president for 1935.

I would appreciate it very much if anyone knowing of any corrections or are able to advise the names of Vice-Presidents for the years 1913 to 1920 would write in at once.

Organized	President	Vice-Presidents	Sec'y-Treas.
1st—Williamsport 1904	Dr. H. A. Surface	E. F. Phillips, Ph. D.	Rev. D. L. Woods
2d 1905	Dr. H. A. Surface	E. F. Phillips, Ph. D.	Rev. D. L. Woods
3d, Mar. 29-30, State College 1906	Dr. H. A. Surface	Rev. D. L. Woods Dr. R. B. Hayes Prof. H. C. Klinger	Leroy R. White
4th—Harrisburg .... 1907 Jan. 17, 18, 19	Prof. H. C. Klinger	Dr. R. B. Hayes Geo. H. Rea J. W. Nelson	Prof. F. G. Fox
5th—York .... 1908 Nov. 12-13	Prof. H. C. Klinger	C. N. Greene I. F. Miller Geo. H. Rea	A. F. Satterthwait
6th—Lebanon, Pa. ...... 1909 Sept. 8th	Dr. H. A. Surface (From 11-13-08)	H. K. Beard Harold Horner Geo. H. Rea	A. F. Satterthwait
7th—Philadelphia, Pa., 1910 Sept. 9th	Dr. H. A. Surface	H. K. Beard Harold Horner Geo. H. Rea	A. F. Satterthwait
8th—Lancaster, Pa........1911 Dec. 1-2	Dr. H. A. Surface	H. K. Beard Harold Horner Geo. H. Rea	H. C. Klinger (From 9-9-1910)
9th 1912	Dr. H. A. Surface	H. K. Beard C. N. Greene Geo. H. Rea	H. C. Klinger
10th 1913	Dr. H. A. Surface		H. C. Klinger
11th 1914	Dr. H. A. Surface		H. C. Klinger
12th 1915	Dr. H. A. Surface		H. C. Klinger
13th 1916	Dr. H. A. Surface		H. C. Klinger
14th 1917	Dr. H. A. Surface		H. C. Klinger
15th 1918	Dr. H. A. Surface		H. C. Klinger
16th—Harrisburg .... 1919 Jan. 23	Dr. H. A. Surface		C. N. Greene (From 1-23-19)
17th—Harrisburg 1920	Dr. H. A. Surface		C. N. Greene
18th—Harrisburg 1921	Harry W. Beaver	R. C. Whitman	C. N. Greene
19th—Harrisburg 1922	Harry W. Beaver	A. T. Keil	C. N. Greene
20th—Harrisburg 1923	A. T. Keil	C. F. Combs	C. N. Greene
21st—Harrisburg 1924	A. T. Keil	C. F. Combs	C. N. Greene
22d—Harrisburg 1925	Geo. H. Rea	A. T. Keil	C. N. Greene
23d—Harrisburg 1926	Geo. H. Rea	A. T. Keil	C. N. Greene
24th—Harrisburg 1927	W. C. Long	E. J. Anderson	C. N. Greene
25th—Harrisburg 1928	E. J. Anderson	Harry W. Beaver	C. N. Greene
26th—Harrisburg 1929	E. J. Anderson	Allen C. Trainer	C. N. Greene
27th—Harrisburg 1930	Dr. H. A. Surface	E. J. Anderson	C. N. Greene
28th—Harrisburg 1931	Dr. H. A. Surface	E. J. Anderson	C. N. Greene
29th—Harrisburg 1932	H. B. Kirk	Harry W. Beaver	C. N. Greene
30th—Harrisburg 1933	H. B. Kirk	Harry W. Beaver	C. N. Greene
31st—Harrisburg 1934	E. J. Anderson	E. G. Cornwell	A. T. Keil
32d—Harrisburg 1935	E. J. Anderson	E. G. Cornwell	A. T. Keil
33d—Harrisburg 1936	Rev. H. M. Snavely	E. J. Anderson	A. T. Keil
34th—Harrisburg 1937	Rev. H. M. Snavely	E. J. Anderson	Chas. Hess

ERIE COUNTY NOTES

By E. E. Root

The golden rod was very short. It seemed to dry up so quick this year. We had a little cool weather and I think that helped to cut it off. I think that the average surplus will only run around 35 or 40 pounds per hive. I think much shorter than last year. The prices are about the same as last year, but the extracted runs a little higher. The retail price for buckwheat is 65 cents per five pound pails, and 75 cents for light.

There are some beekeepers who have begun to pack their bees but we have had no cold weather up here yet. I will pack mine this week as it may snow most any day now.

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NOTES FROM ONTARIO, CANADA

By J. W. Hodgson, Jarvis

We have had a very poor season here, our average per colony was only approximately fifty pounds. It was the most unsatisfactory season that I have ever had to contend with, it just seemed impossible to plan a day ahead. For years we have had a serious shortage of rain in this section, with the result that there was no alsike clover, only alfalfa. This season started out very wet and continued so through most of the season. The farmers seemed to all cut the alfalfa as soon as it came into bloom and I don't think the bees had more than two or three part days to work. We actually had colonies starve during the month of July. However, we were able to re-queen and to make enough increases to keep our colony count up and the bees have gone into winter quarters in good condition.

The prospects for next season as far as clover is concerned are very good and we will all hope that both the bees and the clover will come through the winter in good condition, perhaps we should extend the same hopes for the beekeepers.

The steam wax melter that you saw while here in 1935 is still in duty and is certainly a success, it has taken the work out of melting wax. We only had about seven hundred pounds this year and it was hardly worth starting op the boiler. I would make a much smaller melter if I was making it again. The bee escape that I showed you is a success as an outside escape, but it might be plugged by the bees if used inside. We have one in the rim of each of the inner covers and we can use this for an escape when taking off the honey. There have been no other new ideas developed since you were here, except that this year must have caused any thoughtful beekeepers to realize how dependent they are on the weather and how useless equipment and planning can be. Trusting to hear from you, I remain

Yours very truly,

J. W. Hodgson

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BLAIR COUNTY NOTES

The sale of honey has been better than for several years past. Comb honey has been in good demand, and is all disposed of at this time. Prices obtained were about 15 cents per section, wholesale—retailers asking from 20 to 25 cents per section. The honey was of fine quality and white color, although some of cappings might have been a little off color.

There is a small quantity of No. 2 comb still on hand, however, that will find a market. Extracted honey also sold well. The bulk of extracted is sold in one pound modernistic jars.

All colonies are packed out of doors. Mr. Shoop also has his packed outside—is not using his bee cellar this year.

ERIE COUNTY NOTES

By E. E. Root

The honey flow and the amount produced this year was far below normal. There was a pretty good crop of buckwheat. If it had not been for this crop, we would have been a complete failure as the golden rod was a very short crop—only about one-third normal.

I think that the most of the bees went into the winter in the best condition I have ever seen but the winter has been a very mild one so far and it seems that the bees have had several flights.

The surplus honey is being consumed very rapidly and there are signs of imported honey on the market, especially the light grades.

We had an Association meeting on the 17th of November with our largest attendance. It was a very good meeting—lots of interesting problems being discussed.

TIOGA COUNTY NOTES

By Walter Doud

Bees in this county went into winter quarters in good shape, plenty of stores and young bees. Clovers looked good this fall and as we have had some snow to protect them so far this winter, we are looking forward to a better crop of clover honey in 1938 than we had this year. Weather for the first half of December has been much colder than normal, with temperatures to near zero several nights. Last few days have been warmer and snow is all melted, but it has been too cloudy or rainy for bees to get a flight.

Honey is selling as well this year as it has at anytime in our experience, our mail order business increases a little each year, and some of the local candy makers are using more honey in their candy.

It was my pleasure and profit to attend the Round Up of the 4-H Bee Club of Nauvoo on Dec. 10th. They are much interested in their work and had a good showing of honey although it was a poor year, and are eagerly looking forward to next year. The members of the club, students of the school and parents assisted by the teacher of the school, put on a good entertainment, which shows what a fine cooperative spirit they have at Nauvoo.

NORTHAMPTON COUNTY NOTES

By Floyd H. Sandt

The sale for honey is very good, but the prices are the same. Comb honey is about to its end for this year. We are putting up special Christmas packages and they are moving very well.

The bees that were in the buckwheat region have plenty of feed for the winter, but the ones that depended on golden rod and aster had to be fed.

AN INVITATION TO THE MARYLAND STATE MEETING

An invitation has been extended to the Pennsylvania beekeepers to attend the statewide meeting of the Maryland beekeepers. This meeting will be at the Francis Scott Key Hotel, Frederick, Maryland, January 15th.

The program will begin with a luncheon at 12:30 for $.75 a plate. The speakers are W. E. Braithwaite, National Bureau of Standards, who will talk on the subject of "Honey Containers" (with exhibit). Dr. N. E. Cary, State Entomologist, will discuss "Bees for Orchard Pollination."

There will be a fine exhibit of honey in the lobby. It is the one prepared by Mr. Lathrop for the National Meetings. This invitation is extended through George J. Abrams, Specialist in Apiculture, Maryland.

BRADFORD COUNTY NOTES

By Harry W. Beaver

Winter begins today, December 21st, and the bees are beginning their third month of inactivity, and yet the poet sings about the busy bee.

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